FORM 10-Q

Quarterly report pursuant to sections 13 or 15(d)

Filing Date: **2020-11-12** | Period of Report: **2020-09-30**
SEC Accession No. 0001437749-20-023605

FILER

Moleculin Biotech, Inc.
CIK:**1659617**| IRS No.: **474671999** | State of Incorp.:**DE** | Fiscal Year End: **1231**
Type: **10-Q** | Act: **34** | File No.: **001-37758** | Film No.: **201306468**
SIC: **2834** Pharmaceutical preparations

Mailing Address
5300 MEMORIAL DRIVE
SUITE 950
HOUSTON TX 77007

Business Address
5300 MEMORIAL DRIVE
SUITE 950
HOUSTON TX 77007
713-300-5160

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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-Q

☒QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the quarterly period ended September 30, 2020
or
☐TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the transition period from _____ to _____
Commission File Number: 001-37758

MOLECULIN BIOTECH, INC.

(Exact name of registrant as specified in its charter)

Delaware	**2834**	**47-4671997**
(State or Other Jurisdiction of Incorporation or Organization)	(Primary Standard Industrial Classification Code Number)	(IRS Employer Identification Number)

5300 Memorial Drive, Suite 950
Houston TX **77007** (Zip Code)

(Address of principal executive offices)

713-300-5160
(Registrant's telephone number, including area code)

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Registration S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company or an emerging growth company. See definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.:

Large accelerated filer ☐ Smaller reporting company ☒
Emerging growth company ☒
Non-accelerated filer ☒
Accelerated filer ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☒

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act.): Yes ☐ No ☒

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol (s)	Name of each exchange on which registered
Common Stock, par value $0.001 per share	MBRX	The NASDAQ Stock Market LLC

The registrant had 62,464,564 shares of common stock outstanding at November 5, 2020.

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Moleculin Biotech, Inc.

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PART 1 FINANCIAL INFORMATION

Item 1. Financial Statements

Moleculin Biotech, Inc.
Condensed Consolidated Balance Sheets
(in thousands, except for share and per share data)
(unaudited)

	September 30, 2020	December 31, 2019
Assets		
Current assets:		
Cash and cash equivalents	$ 12,795	$ 10,735
Prepaid expenses and other current assets	2,455	2,749
Total current assets	15,250	13,484
Furniture and equipment, net	522	316
Intangible assets	11,148	11,148
Operating lease right-of-use asset	224	287
Total assets	$ 27,144	$ 25,235

Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable	$ 1,343	$ 2,153
Accrued expenses and other current liabilities	2,095	1,417
Total current liabilities	3,438	3,570
Operating lease liability - long-term, net of current portion	190	276
Warrant liability - long-term	9,049	5,818
Total liabilities	12,677	9,664
Commitments and contingencies (Note 7)		
Stockholders' equity		
Preferred stock, $0.001 par value; 5,000,000 shares authorized, no shares issued or outstanding	—	—
Common stock, $0.001 par value; 100,000,000 shares authorized as of September 30, 2020 and December 31, 2019, 61,764,225 and 45,727,700 shares issued and outstanding at September 30, 2020 and December 31, 2019, respectively	62	46
Additional paid-in capital	68,649	55,055
Accumulated other comprehensive income	33	31
Accumulated deficit	(54,277)	(39,561)
Total stockholders' equity	14,467	15,571
Total liabilities and stockholders' equity	$ 27,144	$ 25,235

See accompanying notes to unaudited condensed consolidated financial statements.

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Moleculin Biotech, Inc.
Condensed Consolidated Statements of Operations and Comprehensive Loss
(in thousands, except share and per share data)
(unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2020	**2019**	**2020**	**2019**
Revenues	$ —	$ —	$ —	$ —
Operating expenses:				
Research and development	4,435	2,785	10,971	7,816
General and administrative	1,659	1,672	5,122	4,748
Depreciation and amortization	57	51	154	147
Total operating expenses	6,151	4,508	16,247	12,711
Loss from operations	(6,151)	(4,508)	(16,247)	(12,711)
Other income:				
Gain from change in fair value of warrant liability	2,743	124	1,489	3,059
Other income, net	10	5	32	5
Interest income, net	3	5	10	10
Net loss before taxes	$ (3,395)	$ (4,374)	$ (14,716)	$ (9,637)
Income tax benefit	—	229	—	229
Net loss	$ (3,395)	$ (4,145)	$ (14,716)	$ (9,408)
Net loss per common share - basic and diluted	$ (0.06)	$ (0.09)	$ (0.26)	$ (0.24)
Weighted average common shares outstanding, basic and diluted	61,474,857	45,464,746	56,979,507	39,034,303
Net Loss	$ (3,395)	$ (4,145)	$ (14,716)	$ (9,408)
Other comprehensive income (loss):				
Foreign currency translation	10	(3)	2	(16)

Comprehensive loss	$ (3,385)	$ (4,148)	$ (14,714)	$ (9,424)

See accompanying notes to unaudited condensed consolidated financial statements.

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Moleculin Biotech, Inc.
Condensed Consolidated Statements of Cash Flows
(in thousands)
(unaudited)

	Nine Months Ended September 30,	
	2020	**2019**
Cash flows from operating activities:		
Net loss	$ (14,716)	$ (9,408)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	154	147
Stock-based compensation	1,265	1,155
License rights expense settled in stock	—	490
Change in fair value of warrant liability	(1,489)	(3,059)
Operating lease, net of sublease receipts	90	(10)
Changes in operating assets and liabilities:		
Prepaid expenses and other current assets	294	(2,337)
Accounts payable	(810)	1,942
Accrued expenses and other current liabilities	565	(1,441)
Net cash used in operating activities	(14,647)	(12,521)
Cash flows from investing activities:		
Purchase of fixed assets	(360)	(42)
Net cash used in investing activities	(360)	(42)
Cash flows from financing activities:		
Proceeds from exercise of stock options	—	5
Proceeds from exercise of warrants	5	1,557
Payment of tax liability for vested restricted stock units	(17)	—
Proceeds from sale of common stock, net of issuance costs	17,077	19,292
Net cash provided by financing activities	17,065	20,854
Effect of exchange rate changes on cash and cash equivalents	2	(16)
Net change in cash and cash equivalents	2,060	8,275
Cash and cash equivalents, at beginning of period	10,735	7,134
Cash and cash equivalents, at end of period	$ 12,795	$ 15,409
Supplemental disclosures of cash flow information:		
Cash paid for interest	$ —	$ 1
Cash paid for taxes	$ 20	$ 15
Research and development expense settled in stock	$ —	$ 490
Non-cash investing and financing activities:		
Purchases of property and equipment in accounts payable and accrued liabilities	$ 316	$ 21

See accompanying notes to unaudited condensed consolidated financial statements.

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Moleculin Biotech, Inc.
Condensed Consolidated Statements of Stockholders' Equity

(in thousands, except for shares)
(unaudited)

	Nine Months Ended September 30, 2020					
	Common Stock		Additional	Accumulated	Accumulated Other Comprehensive	Stockholders'
	Shares	Par Value Amount	Paid-In Capital	Deficit	Income (Loss)	Equity
Balance, December 31, 2019	45,727,700	$ 46	$ 55,055	$ (39,561)	$ 31	$ 15,571
Issued for cash - sale of common stock, net of issuance costs of $709	7,500,000	7	559	—	—	566
Stock-based compensation	—	—	397	—	—	397
Consolidated net loss	—	—	—	(1,209)	—	(1,209)
Cumulative translation adjustment	—	—	—	—	(33)	(33)
Balance, March 31, 2020	53,227,700	$ 53	$ 56,011	$ (40,770)	$ (2)	$ 15,292
Issued for cash - sale of common stock, net of issuance costs of $336	7,170,964	7	10,000	—	—	10,007
Warrants exercised	4,500	—	9	—	—	9
Stock-based compensation	—	—	408	—	—	408
Consolidated net loss	—	—	—	(10,112)	—	(10,112)
Cumulative translation adjustment	—	—	—	—	25	25
Balance, June 30, 2020	60,403,164	$ 60	$ 66,428	$ (50,882)	$ 23	$ 15,629
Issued for cash - sale of common stock, net of issuance costs of $135	1,301,126	2	1,778	—	—	1,780
Common stock issued upon vesting of restricted stock units (net of shares withheld for payment of tax liability)	59,935	—	(17)	—	—	(17)
Stock-based compensation	—	—	460	—	—	460
Consolidated net loss	—	—	—	(3,395)	—	(3,395)
Cumulative translation adjustment	—	—	—	—	10	10
Balance, September 30, 2020	61,764,225	$ 62	$ 68,649	$ (54,277)	$ 33	$ 14,467

	Nine Months Ended September 30, 2019					
	Common Stock		Additional	Accumulated	Accumulated Other Comprehensive	Stockholders'
	Shares	Par Value Amount	Paid-In Capital	Deficit	Income (Loss)	Equity
Balance, December 31, 2018	28,528,663	$ 29	$ 40,564	$ (26,356)	$ 35	$ 14,272
Issued for cash - sale of common stock, net of issuance costs of $617	5,250,000	5	3,221	—	—	3,226
Issued to Lincoln Park - sale of common stock	605,367	—	883	—	—	883
Stock options exercised	25,000	—	5	—	—	5
Stock-based compensation	—	—	348	—	—	348
Consolidated net loss	—	—	—	(4,041)	—	(4,041)
Cumulative translation adjustment	—	—	—	—	(11)	(11)
Balance, March 31, 2019	34,409,030	$ 34	$ 45,021	$ (30,397)	$ 24	$ 14,682
Issued for cash - sale of common stock, net of issuance costs of $1,300	9,375,000	9	3,575	—	—	3,584
Warrants exercised	1,413,018	2	4,729	—	—	4,731
Stock-based compensation	—	—	318	—	—	318
Consolidated net loss	—	—	—	(1,221)	—	(1,221)
Cumulative translation adjustment	—	—	—	—	(2)	(2)
Balance, June 30, 2019	45,197,048	$ 45	$ 53,643	$ (31,618)	$ 22	$ 22,092
Issued to Lincoln Park - sale of common stock, net of issuance costs of $59	100,674	—	52	—	—	52
Common stock issued for license rights	429,978	1	489	—	—	490
Stock-based compensation	—	—	489	—	—	489
Consolidated net loss	—	—	—	(4,145)	—	(4,145)
Cumulative translation adjustment	—	—	—	—	(3)	(3)

Balance, September 30, 2019	45,727,700	$ 46	$ 54,673	$ (35,763)	$ 19	$ 18,975

See accompanying notes to unaudited condensed consolidated financial statements.

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Moleculin Biotech, Inc.
Notes to the Unaudited Condensed Consolidated Financial Statements

1. Nature of Business and Liquidity

The terms "MBI" or "the Company", "we", "our", and "us" are used herein to refer to Moleculin Biotech, Inc. MBI is a clinical-stage pharmaceutical company, organized as a Delaware corporation in July 2015, with its focus on the treatment of highly resistant cancers and viruses through the development of its drug candidates, all of which are based on license agreements with The University of Texas System on behalf of the MD Anderson Cancer Center, which we refer to as MD Anderson. MBI formed Moleculin Australia Pty. Ltd., (MAPL), a wholly owned subsidiary, to perform certain preclinical development in Australia. This enables the Company to enjoy the benefits of certain research and development tax credits in Australia. In February 2019, the Company entered into an agreement with Animal Life Sciences, LLC (ALI), where the Company has granted a sublicense to ALI to research, develop, make, have made, use, offer to sell, sell, export or import and commercialize certain licensed products for non-human use and share development data. ALI issued to the Company a 10% interest in ALI. ALI converted into a corporation and became Animal Life Sciences, Inc.

Core Technologies - MBI has three core technologies, two of which have multiple drug candidates, and all of which are based on discoveries made at MD Anderson. These core technologies are 1) Annamycin, 2) its STAT3 Immune/Transcription Modulators, or simply "Immune/Transcription Modulators" WP1066 portfolio and 3) its Antimetabolite (including Metabolism/Glycosylation Inhibitors) WP1122 portfolio of molecules. The Company's clinical stage drugs are Annamycin, an anthracycline which is currently in one Phase 1/2 study for the treatment of relapsed acute myeloid leukemia (AML), with one Phase 1 study in the United States of America (US) recently concluding, WP1066, an Immune/Transcription Modulator, which is in two Phase 1 clinical trials in the US for the treatment of brain tumors, and WP1220, a member of the WP1066 portfolio of drugs, which has completed a Phase 1 proof-of-concept clinical trial in Poland for the topical treatment of cutaneous T-cell lymphoma (CTCL), a form of skin cancer.

The Company refers to Annamycin as a "Next Generation Anthracycline" since it is designed to avoid the multidrug resistance mechanisms that typically defeat currently approved anthracyclines, as well as to be non-cardiotoxic, which is the dose limiting toxicity for all currently approved anthracyclines. Annamycin is currently in a Phase 1/2 clinical trial in Europe, having successfully completed a Phase 1 safety trial in the US in early 2020, and preliminary clinical data suggests that it may have the potential to become the first therapy suitable for the majority of relapsed AML patients regardless of gene mutations. These trials have so far demonstrated safety, including the absence of any cardiotoxicity, and have demonstrated some initial efficacy. Additionally, preclinical research in animal models at MD Anderson demonstrated that Annamycin is able to significantly improve survival in multiple tumors that have metastasized to the lungs. Coupled with research demonstrating that Annamycin is capable of accumulating in the lungs at high levels, this suggests that Annamycin may be well suited to become a treatment for lung-localized tumors and the Company is performing preclinical work to enable an IND or its equivalent to be filed by the end of this year.

WP1066 is one of several Immune/Transcription Modulators in the Company's pipeline that appear capable of stimulating immune response to tumors by inhibiting the errant activity of Regulatory T-Cells (TRegs) while also inhibiting key oncogenic transcription factors, including p-STAT3, c-Myc and HIF-1 alpha. These transcription factors are widely sought targets that may also play a role in the lack of efficacy of immune checkpoint inhibitors in certain resistant tumors. The "proof-of-concept" Phase 1 trial in Poland for WP1220 demonstrated safety and efficacy and the Company intends to attempt to join efforts with a strategic partner for the continued development of WP1220 as a topical therapy for CTCL.

The Company is also developing new prodrugs to exploit the potential uses of its WP1122 portfolio of antimetabolites, including inhibitors of glycolysis and glycosylation. Its lead Metabolism/Glycosylation Inhibitor compound, WP1122, provides an opportunity to cut off the fuel supply of tumors and viruses by taking advantage of their overdependence on glucose and glycolysis as compared with healthy cells. New research also points to the potential for the glucose decoy (2-DG) within WP1122 to be capable of enhancing the usefulness of checkpoint inhibitors and inhibiting glycosylation and glycolysis in virally infected cells. During 2020, the Company entered into agreements with several third party research centers to conduct research on WP1122 for antiviral properties against a range of viruses, including Coronavirus. Additional research with other molecules in this portfolio with independent contractors has also begun.

Drug Candidates - Within the Company's core technologies, it currently has five drug candidates representing three substantially different mechanisms of action. Annamycin is a chemotherapy designed to inhibit the replication of DNA of rapidly dividing cells and is the Company's most mature drug candidate. The Company has a trial open in Poland and one that recently completed in the US. The US Phase 1 portion of the Phase 1/2 trial reached key safety end points in early 2020. As a result of discussions with the FDA, the Company will utilize its trial in Europe to establish a recommended Phase 2 dose (RP2D) and to generate additional safety and efficacy data as requested by the FDA. The Phase 1/2 trial in Poland continues its dose escalation and is in its fifth cohort where patients are being treated at 240 mg/m2. The second patient in that cohort experienced a dose limiting toxicity (DLT), secondarily related to concomitant medication not being withheld. The DLT was resolved, and that cohort will be expanded to a total of six patients. If a second DLT in this cohort occurs, then we would enroll three subjects that would be treated at 210 mg/m2 to confirm the maximum tolerated dosage. If no additional DLT occurs in the current cohort, then we will progress to the sixth cohort at 300 mg/m2. We believe the impact of the COVID-19 pandemic is slowing the pace of our patient recruitment in our Polish Annamycin clinical trial. We cannot assess when such an impact on our trial will be alleviated or if it will worsen. So far both trials have demonstrated that Annamycin, to date, is safe and is non-cardiotoxic. The trials have demonstrated initial efficacy as well.

In addition to Annamycin, the Company has other drug development projects, two of which are also in clinical trials:

- Two separate Phase 1 physician-sponsored clinical trials are under way to evaluate WP1066. One trial is at MD Anderson Cancer Center for the potential treatment of adult patients with brain tumors and the other is at Emory University for the potential treatment of pediatric brain tumors. Both have begun treating patients. In the Emory trial, one of the patients with DIPG (Diffuse Intrinsic Pontine Glioma), showed an apparent response to the treatment with both clinical improvement and radiologic reduction of tumor size. We caution that this is preliminary data and no conclusions should be drawn from this single event.

- The Company is also evaluating WP1066 for the potential treatment of AML, pancreatic and other cancers. MBI has begun pre-clinical work that it expects to generate sufficient data for an IND for an intravenous formulation of one of its STAT3 inhibitors, which filing is expected to be submitted in 2021.

- WP1220 is an analog of WP1066 for which Polish authorities approved the Company's Clinical Trial Application (CTA) in 2019 for a Phase 1 "proof-of-concept" clinical trial to study the topical treatment of CTCL. This trial was completed, and the Company believes it demonstrated sufficient efficacy to justify a Phase 2 trial. The Company intends to attempt to join efforts with a strategic partner in 2021 for the further development of WP1220 for the treatment of CTCL.

- Several molecules in the WP1122 portfolio are being evaluated for their potential to address hard to treat cancers and viruses. This portfolio of antimetabolites includes WP1122 which inhibits glycolysis and glycosylation. The Company has begun preclinical work on WP1122 and other analogs in this portfolio to possibly position one or more of them as treatments for certain cancers and viruses, including the Coronavirus. The Company believes this work may support an IND or its equivalent for WP1122 and/or related compounds.

Clinical Trials - The Company has concluded the initial Phase 1 portion of its Phase 1/2 trial of Annamycin for the potential treatment of AML in the US due to the FDA's requirement to set the initial dose level relatively low in comparison with previous Annamycin clinical trials. Additionally, the Company believes that patient recruitment for its Annamycin AML clinical trial in Europe will continue to be more successful than in the US due to a comparatively lower number of competitive clinical trials and the protocol there being approved to start at a significantly higher dose than in the US with fewer enrollment screening limitations. This European AML trial is in its fifth cohort in the dose ranging Phase 1 portion of the trial. The Company has also announced plans to submit an IND or its equivalent for the use of Annamycin to potentially treat lung metastases, which it expects to submit before the end of 2020.

In September 2018, the physician-sponsored WP1066 Phase 1 clinical trial for the treatment of glioblastoma and melanoma metastasized to the brain, which opened for recruitment in July 2018, began treating patients. In April 2020, a second physician-sponsored Phase 1 trial for the potential treatment of pediatric brain tumors began recruitment and has begun treating patients. In August 2019, the Company completed its proof-of-concept Phase 1 clinical trial in Poland to study WP1220, a part of the WP1066 portfolio, for the treatment of CTCL. This trial demonstrated the safety of WP1220 and also demonstrated, the Company believes, initial efficacy sufficient to support beginning a Phase 2 clinical trial. The Company intends to attempt to join efforts with a strategic partner in 2021 for the further development of WP1220 for the treatment of CTCL.

Moleculin has recently announced discoveries (both internally funded and independently developed) supporting the potential use of WP1122 for the treatment of COVID-19 and other viral diseases. The Company is deploying resources on the development of an IND or its equivalent for testing WP1122 in patients with COVID-19 and/or certain cancers, as such preclinical work may support both

viral and cancer indications. It expects to submit such an IND or its equivalent in the first half of 2021, as access to in vivo studies may necessitate such timing.

Licenses - The Company has been granted royalty-bearing, worldwide, exclusive licenses for the patent and technology rights related to all of MBI's drug technologies, as these intellectual property rights are owned in part or entirely by MD Anderson. The Annamycin drug substance is no longer covered by any existing patent protection, however, the Company filed new patent applications in July 2019 for formulation, synthetic process and reconstitution related to MBI's Annamycin drug product candidate, although there is no assurance that the Company will be successful in obtaining such patent protection. Most of this technology is also licensed from MD Anderson. The Company sponsors significant research at MD Anderson. New patents may result out of this research. From time to time, there are license issues that need to be discussed and handled with MD Anderson such as adding additional patents to existing license agreements and extension of milestones. The Company believes that such issues will be handled in the ordinary course of business.

Independently from potential patent protection, MBI has received Orphan Drug designation (ODD) from the FDA for Annamycin for the treatment of AML and for WP1066 for the treatment of glioblastoma. ODD may provide tax and other benefits during product development, and if either product is approved, may lead to a grant of seven-year market exclusivity. Under that exclusivity, which runs from the date of the approval of the New Drug Application (NDA) in the US, the FDA generally (there are important exceptions) could not approve another product containing the same drug for the designated indication. The Company also intends to apply for similar status in the European Union (EU) where market exclusivity could extend to 10 years from the date of Marketing Authorization Application (MAA) approval. Separately, the FDA may also grant market exclusivity of 5 years for newly approved new chemical entities (which the Company believes Annamycin would be one), which would preclude approval of any other annamycin product, but there can be no assurance that such exclusivity will be granted. In April 2019, FDA approved the Company's request for Fast Track Designation for Annamycin for the treatment of relapsed or refractory AML. Fast Track Designation, the purpose of which is to expedite drug development and approval, is granted to drugs intended to treat serious conditions and where data demonstrate the potential to address an unmet medical need.

COVID 19 - In March 2020, the World Health Organization declared the outbreak of a novel Coronavirus (COVID-19) as a pandemic, which continues to spread throughout the world. The spread of COVID-19 has caused significant volatility in US and international markets, including Poland, where the Company conducts some of its clinical trials and Italy, where its drug supply is produced. There has been limited interruption of the Company's drug supply, and some Polish clinics where the Company is conducting trials have limited access on monitoring activities. Additionally, the Company believes COVID-19 has materially slowed the progress of the Company's trials. This could worsen or be alleviated at any time. Furthermore, there is significant uncertainty around the breadth and duration of business disruptions related to COVID-19, as well as its impact on the US and international economies and, as such, the Company is unable to determine if it will have a material impact to its operations.

Nasdaq - On September 30, 2020, the Company received a letter from NASDAQ notifying the Company that for the last 30 consecutive business days the bid price for the Company's common stock had closed below the minimum $1.00 per share requirement for continued inclusion on the Nasdaq Capital Market pursuant to Nasdaq Listing Rule 5550(a)(2) (the "Bid Price Rule"). The deficiency letter does not result in the immediate delisting of the Company's common stock from the Nasdaq Capital Market. In accordance with Nasdaq Listing Rule 5810(c)(3)(A), the Company has been provided an initial period of 180 calendar days, or until March 29, 2021, to regain compliance with the Bid Price Rule. If, at any time before March 29, 2021, the bid price for the Company's common stock closes at $1.00 or more for a minimum of 10 consecutive business days, the Nasdaq Staff will provide written notification to the Company that it complies with the Bid Price Rule, unless the Staff exercises its discretion to extend this 10 day period pursuant to Nasdaq Listing Rule 5810(c)(3)(G). If the Company is not in compliance with the Bid Price Rule by March 29, 2021, the Company may be afforded a second 180 calendar day period to regain compliance. To qualify, the Company would be required to meet the continued listing requirement for market value of publicly held shares and all other initial listing standards for the Nasdaq Capital Market, except for the minimum bid price requirement. In addition, the Company would be required to notify Nasdaq of its intent to cure the minimum bid price deficiency, which may include, if necessary, implementing a reverse stock split. If the Company does not regain compliance with the Bid Price Rule by March 29, 2021 and is not eligible for an additional compliance period at that time, the Nasdaq Staff will provide written notification to the Company that its common stock may be delisted. The Company would then be entitled to appeal the Nasdaq Staff's determination to a NASDAQ Listing Qualifications Panel and request a hearing. There can be no assurance that, if the Company does appeal a delisting determination by the Nasdaq Staff to the NASDAQ Listing Qualifications Panel, that such appeal would be successful. The Company intends to monitor the closing bid price of its common stock and may, if appropriate, consider available options to regain compliance with the Bid Price Rule, which could include effecting a reverse stock split. However, there can be no assurance that the Company will be able to regain compliance with the Bid Price Rule.

2. Basis of presentation, principles of consolidation and significant accounting policies

Basis of Presentation – Unaudited Interim Condensed Consolidated Financial Information - The accompanying unaudited interim condensed consolidated financial statements and related notes have been prepared in accordance with accounting principles generally accepted in the US (U.S. GAAP) for financial information, and in accordance with the rules and regulations of the US Securities and Exchange Commission (SEC) with respect to Form 10-Q and Article 8 of Regulation S-X. Accordingly, they do not include all of the information and footnotes required by U.S. GAAP for complete financial statements. The unaudited interim condensed consolidated financial statements furnished reflect all adjustments (consisting of normal recurring adjustments), which are, in the opinion of management, necessary for a fair statement of results for the interim periods presented. Interim results are not necessarily indicative of the results for the full year. These interim condensed unaudited consolidated financial statements should be read in conjunction with the audited financial statements of the Company as of December 31, 2019 and December 31, 2018 and notes thereto contained in the Form 10-K filed with the SEC on March 19, 2020.

Principles of consolidation - The accompanying unaudited condensed consolidated financial statements include the accounts of the Company and its wholly owned subsidiary. All intercompany balances and transactions have been eliminated in consolidation. Any reference in these notes to applicable guidance is meant to refer to U.S. GAAP. The company views its operations and manages its business in one operating segment. All long-lived assets of the Company reside in the US.

Use of Estimates - The preparation of these condensed consolidated financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of expenses during the reporting period. Actual results could differ from those estimates. Management considers many factors in selecting appropriate financial accounting policies and controls, and in developing the estimates and assumptions that are used in the preparation of these financial statements. Management must apply significant judgment in this process. In addition, other factors may affect estimates, including expected business and operational changes, sensitivity and volatility associated with the assumptions used in developing estimates, and whether historical trends are expected to be representative of future trends. The estimation process often may yield a range of potentially reasonable estimates of the ultimate future outcomes and management must select an amount that falls within that range of reasonable estimates. This process may result in actual results differing materially from those estimated amounts used in the preparation of financial statements. Estimates are used in the following areas, among others: fair value estimates on intangible assets, warrants, and stock-based compensation expense, as well as accrued expenses and taxes.

Going Concern - These condensed consolidated financial statements have been prepared on a going concern basis, which assumes the Company will continue to realize its assets and discharge its liabilities in the normal course of business. The continuation of the Company as a going concern is dependent upon the ability of the Company to obtain necessary equity financing to continue operations and the attainment of profitable operations. As of September 30, 2020, the Company has incurred an accumulated deficit of $54.3 million since inception and had not yet generated any revenue from operations. Additionally, management anticipates that its cash on hand as of September 30, 2020, is sufficient to fund its planned operations into but not beyond the near term. These factors raise substantial doubt regarding the Company's ability to continue as a going concern. These unaudited condensed consolidated financial statements do not include any adjustments to the recoverability and classification of recorded asset amounts and classification of liabilities that might be necessary should the Company be unable to continue as a going concern. The Company may seek additional funding through a combination of equity offerings, debt financings, government or other third-party funding, commercialization, marketing and distribution arrangements, other collaborations, strategic alliances and licensing arrangements and delay planned cash outlays or a combination thereof. Management cannot be certain that such events or a combination thereof can be achieved.

Cash and Cash Equivalents - The Company considers all highly liquid accounts with original maturities of three months or less at the date of acquisition to be cash equivalents. Periodically in the ordinary course of business, the Company may carry cash balances at financial institutions in excess of the Federally insured limits of $250,000.

Prepaid Expenses and Other Current Assets - Prepaid expenses and other current assets consist of the following (in thousands):

	September 30, 2020	December 31, 2019
Vendor prepayments and deposits	$ 1,312	$ 1,857
Prepaid insurance	880	352
Other current assets	257	529
Related party receivables	5	10
Non-trade receivables	1	1
Total prepaid expenses and other current assets	$ 2,455	$ 2,749

Vendor prepayments at September 30, 2020 and December 31, 2019, includes approximately $1.1 million and $1.5 million, respectively, for the expansion of Annamycin production commitments on a commercial scale currently expected to be delivered through the remainder of 2020 and into the first quarter of 2021 for use in clinical trials.

Intangible Assets - Intangible assets with finite lives are amortized using the straight-line method over their estimated period of benefit. Acquired intangible assets identified as in-process research and development (IPR&D) assets, are considered indefinite lived until the completion or abandonment of the associated research and development efforts. If the associated research and development effort is abandoned, the related IPR&D assets will be written-off and the Company will record a noncash impairment loss on its statements of operations. For those compounds that reach commercialization, the IPR&D assets will be amortized over their estimated useful lives. The Company evaluates the recoverability of intangible assets periodically and take into account events or circumstances that warrant revised estimates of useful lives or that indicate that impairment exists. No impairments of intangible assets have been identified during any of the periods presented. Intangible assets are tested for impairment on an annual basis, and between annual tests if indicators of potential impairment exist, using a fair-value-based approach.

Property and Equipment, net - Leasehold improvements, furniture, equipment and software are recorded at cost and are depreciated using the straight-line method over the estimated useful lives of the related assets. Leasehold improvements are amortized over the shorter of the estimated useful life or the remaining lease term. Accumulated depreciation on property and equipment was $0.4 million and $0.3 million at September 30, 2020 and December 31, 2019, respectively.

Operating Lease Right-of-Use Asset - The Company determines if an arrangement is a lease at contract inception or during modifications or renewal of an existing lease. Operating lease assets represent the Company's right to use an underlying asset for the lease term and operating lease liabilities represent the Company's obligation to make lease payments arising from the lease. Operating lease assets and liabilities are recognized at the commencement date of the lease based upon the present value of lease payments over the lease term. The lease payments used to determine the Company's operating lease assets may include lease incentives, stated rent increases and escalation clauses linked to rates of inflation when determinable and are recognized in the Company's operating lease assets in the Company's condensed consolidated balance sheet. The Company has elected the practical expedient and does not separate lease components from nonlease components for its leases. The Company's operating leases are reflected in operating lease right-of-use asset

(ROU), accrued expenses and other current liabilities, and operating lease liability - long-term, net of current portion in the Company's condensed consolidated balance sheets. Lease expense for minimum lease payments is recognized on a straight-line basis over the lease term. Short-term leases, defined as leases that have a lease term of 12 months or less at the commencement date, are excluded from this treatment and are recognized on a straight-line basis over the term of the lease. Refer to Note 7 - Commitments and Contingencies - Lease Obligations Payable for additional information related to the Company’s operating leases.

Cost Method Investment - The Company's cost method investment consists of an investment in a corporation in which it does not have the ability to exercise significant influence over its operating and financial activities. Management evaluates this investment for possible impairment quarterly.

Fair Value of Financial Instruments - The Company's financial instruments consist primarily of non-trade receivables, accounts payable, accrued expenses and its warrant liability. The carrying amount of non-trade receivables, accounts payable, and accrued expenses approximates their fair value because of the short-term maturity of such.

The Company has categorized its assets and liabilities that are valued at fair value on a recurring basis into a three-level fair value hierarchy in accordance with U.S. GAAP. Fair value is defined as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. The fair value hierarchy gives the highest priority to quoted prices in active markets for identical assets and liabilities (Level 1) and lowest priority to unobservable inputs (Level 3).

Assets and liabilities recorded in the balance sheets at fair value are categorized based on a hierarchy of inputs as follows:

Level 1 – Unadjusted quoted prices in active markets of identical assets or liabilities.
Level 2 – Quoted prices for similar assets or liabilities in active markets or inputs that are observable for the asset or liability, either directly or indirectly through market corroboration, for substantially the full term of the financial instrument.
Level 3 – Unobservable inputs for the asset or liability.

The Company’s financial assets and liabilities recorded at fair value on a recurring basis include the fair value of warrant liability discussed in Note 4.

The following table provides assets and liabilities reported at fair value and measured on a recurring basis at September 30, 2020 and December 31, 2019 (in thousands):

Description	Liabilities Measured at Fair Value	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Other Unobservable Inputs (Level 3)
Fair value of warrant liability as of September 30, 2020:	$ 9,049	$ —	$ —	$ 9,049
Fair value of warrant liability as of December 31, 2019:	$ 5,818	$ —	$ —	$ 5,818

The table below (in thousands) of Level 3 liabilities begins with the valuation as of the beginning of the third quarter and then is adjusted for the issuances and exercises that occurred during the third quarter of 2020 and adjusts for balances for changes in fair value that occurred during the current quarter. The ending balance of the Level 3 financial instrument presented above represents our best estimates and may not be substantiated by comparison to independent markets and, in many cases, could not be realized in immediate settlement of the instruments.

Three Months Ended September 30, 2020	Warrant Liability Current	Warrant Liability Long-Term	Warrant Liability Total
Balance, June 30, 2020	$ —	$ 11,792	$ 11,792
Exercise of warrants	—	—	—
Change in fair value - net	—	(2,743)	(2,743)
Balance, September 30, 2020	$ —	$ 9,049	$ 9,049

The table below (in thousands) of Level 3 liabilities begins with the valuation as of December 31, 2019 and then is adjusted for the issuances and exercises, and changes in fair value that occurred during the nine months ended September 30, 2020. The ending balance of the Level 3 financial instrument presented above represents our best estimates and may not be substantiated by comparison to independent markets and, in many cases, could not be realized in immediate settlement of the instruments.

Nine Months Ended September 30, 2020	Warrant Liability Current	Warrant Liability Long-Term	Warrant Liability Total
Balance, December 31, 2019	$ —	$ 5,818	$ 5,818

Issuances of warrants	—	4,724	4,724
Exercise of warrants	—	(4)	(4)
Change in fair value - net	—	(1,489)	(1,489)
Balance, September 30, 2020	$ —	$ 9,049	$ 9,049

Loss Per Common Share - Basic net loss per common share is computed by dividing net loss available to common shareholders by the weighted-average number of common shares outstanding during the period. For purposes of this calculation, options to purchase common stock, restricted stock units subject to vesting and warrants to purchase common stock are considered to be common stock equivalents. Diluted net loss per common share is determined using the weighted-average number of common shares outstanding during the period, adjusted for the dilutive effect of common stock equivalents. In periods when losses are reported, the weighted-average number of common shares outstanding excludes common stock equivalents, because their inclusion would be antidilutive. For the three months ended September 30, 2020 and 2019, approximately 22.9 million and approximately 14.7 million, respectively, of potentially dilutive shares were excluded from the computation of diluted earnings per share due to their antidilutive effect. For the nine months ended September 30, 2020 and 2019, approximately 20.8 million and approximately 11.3 million, respectively, of potentially dilutive shares were excluded from the computation of diluted earnings per share due to their antidilutive effect.

Stock-based Compensation - Stock-based compensation expense includes the estimated fair value of equity awards vested or expected to vest during the reporting period. The Company accounts for its stock-based compensation awards in accordance with Financial Accounting Standards Board (FASB) Accounting Standards Codification Topic (ASC) 718, Compensation—Stock Compensation (ASC 718). ASC 718 requires all stock-based payments to employees, including grants of employee stock options, restricted stock units, and modifications to existing stock options, to be recognized in the consolidated statements of operations based on their fair values. The grant date fair value of stock options is determined using the Black-Scholes option pricing model and the grant date fair value of restricted stock awards is determined using the closing price of the Company's common stock on the date of grant (or if the date of grant is not a business day, on the business day prior to the date of the grant). The awards are subject to service vesting conditions. Compensation expense related to awards to employees and directors with service-based vesting conditions is recognized on a straight-line basis based on the grant date fair value over the associated service period of the award, which is generally the vesting term, net of forfeitures which are recognized as they occur. Compensation expense related to awards to non-employees with service-based vesting conditions is recognized based on the then-current fair value at each financial reporting date prior to the measurement date over the associated service period of the award or the vesting event, applicable, which is generally the vesting term. Effective January 1, 2020, the Company began using the volatility of its own stock since it now has sufficient historic data in its stock price.

Subsequent Events - The Company's management reviewed all material events through the date these unaudited condensed consolidated financial statements were issued for subsequent events disclosure consideration, see other notes and specifically Note 8 - Subsequent Events.

Recent Accounting Pronouncements

In August 2018, the FASB issued Accounting Standards Update (ASU) No. 2018-13, Fair Value Measurement (Topic 820) (ASU 2018-13). ASU 2018-13 modifies the disclosure requirements on fair value measurements in ASC Topic 820, Fair Value Measurement, based on the concepts in the Concepts Statement, including the consideration of costs and benefits. The amendments in this ASU are effective for all entities for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2019. The Company's adoption of this pronouncement effective January 1, 2020 did not have a material impact on the Company's condensed consolidated financial statements.

In December 2019, the FASB issued ASU No. 2019-12, Income Taxes (Topic 740) (ASU 2019-12). ASU 2019-12 modifies the requirements for the timing of adoption of enacted change in tax law. The effects of changes on taxes currently payable or refundable for the current year must be reflected in the computation of annual effective tax rate in the first interim period that includes the enactment date of the new legislation, beginning after December 15, 2020. Early adoption is permitted upon issuance of this ASU. The Company is currently evaluating the impact that this standard will have, if any, on its financial statements.

In August 2020, the FASB issued ASU No. 2020-06, Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging - Contracts in Entity's Own Equity (Subtopic 815-40) (ASU 2020-06). ASU 2020-06 amends the guidance for the derivatives scope exception for contracts in an entity's own equity to reduce form-over-substance-based accounting conclusions. The Board observed that the application of the derivatives scope exception guidance results in accounting for some contracts as derivatives while accounting for economically similar contracts as equity. The Board also decided to improve and amend the related EPS guidance. The amendments in this Update are effective for public business entities that meet the definition of a Securities and Exchange Commission (SEC) filer, excluding entities eligible to be smaller reporting companies as defined by the SEC, for fiscal years beginning after December 15, 2021, including interim periods within those fiscal years. Early adoption is permitted, but no earlier than fiscal years beginning after December 15, 2020, including interim periods within those fiscal years. The Company is currently evaluating the impact that this standard will have, if any, on its financial statements.

The Company does not believe that any other recently issued effective pronouncements, or pronouncements issued but not yet effective, if adopted, would have a material effect on the accompanying condensed consolidated financial statements.

3. Accrued Expenses and Other Current Liabilities

Accrued expenses and other current liabilities consist of the following components (in thousands):

	September 30, 2020	December 31, 2019
Accrued chemistry manufacturing and control costs	$ 1,086	$ 49
Accrued clinical activities	311	93
Accrued payroll and bonuses	247	436
Operating lease liability - current	114	103
Related party payable	99	99
Accrued license fees and sponsored research agreements	95	201
Accrued legal, regulatory, and professional	87	272
Accrued other	56	164
Total accrued expenses and other current liabilities	$ 2,095	$ 1,417

4. Warrants

At September 30, 2020, and December 31, 2019, respectively, the Company has the following warrants outstanding:

	Number of Shares Under Outstanding Warrants at September 30, 2020	Number of Shares Under Outstanding Warrants at December 31, 2019	Weighted Average Exercise Price at September 30, 2020	Remaining Contractual Life at September 30, 2020 (No. Years)
Liability Classified Warrants (1)				
Issued February 2017	404,002	404,002	$ 1.50	1.4
Issued February 2018	2,273,700	2,273,700	2.80	2.9
Issued June 2018 (2)	742,991	742,991	2.03	3.2
Issued March 2019	1,581,000	1,585,500	1.10	3.5
Issued April 2019	5,250,000	5,250,000	1.75	3.6
Issued February 2020	6,150,000	—	1.05	4.8
	16,401,693	10,256,193	$ 1.58	
Equity Classified Warrants				
Issued May 2016 - Bonwick	107,802	107,802	$ 7.50	0.6
Issued July 2017 - Consulting (3)	150,000	150,000	2.61	1.8
Issued April 2018 - Consulting	100,000	100,000	3.00	0.5
Issued August 2019 - Consulting	150,000	150,000	1.64	1.9
Issued April 2020 - Consulting	100,000	—	1.14	4.6
	607,802	507,802	$ 3.06	
Balance outstanding	17,009,495	10,763,995	$ 1.63	

(1) If the Company subdivides (by any stock split, stock dividend, recapitalization or otherwise) its outstanding shares of its common stock into a smaller number of shares, the warrant exercise price is proportionately reduced and the number of shares under outstanding warrants is proportionately increased. Additionally, if the Company combines (by combination, reverse stock split or otherwise) its outstanding shares of common stock into a smaller number of shares, the warrant exercise price is proportionately increased and the number of shares under outstanding warrants is proportionately decreased. Also, the Company may voluntarily reduce the warrant exercise price for its warrants issued in March 2019 and February 2017 and may voluntarily extend the contractual term of its warrants issued in February 2017.

(2) Includes warrants to purchase 710,212 shares at an exercise price of $2.02, expiring December 22, 2023, and warrants to purchase 32,779 shares at an exercise price of $2.32, expiring June 21, 2023.

(3) Includes warrants to purchase 100,000 shares at an exercise price of $2.41 and warrants to purchase 50,000 shares at an exercise price of $3.00.

Liability Classified Warrants

The Company uses the Black-Scholes option pricing model (BSM) to determine the fair value of its warrants at the date of issue and outstanding at each reporting date.

The risk-free interest rate assumption is based upon observed interest rates on zero coupon US Treasury bonds linearly interpolated to obtain a maturity period commensurate with the term of the warrants.

Estimated volatility is a measure of the amount by which the Company's stock price is expected to fluctuate each year during the expected life of the warrants. Beginning in 2020, only the volatility of the Company's own stock is used in the BSM as it now has sufficient historic data in its stock price. In 2019, the Company used the volatility of its own stock blended with the volatility of peer entities due to the lack of sufficient historical data of its stock price.

The assumptions used in determining the fair value of the Company's outstanding liability classified warrants are as follows:

	September 30, 2020	December 31, 2019
Risk-free interest rate	0.1% to 0.3%	1.6% to 1.7%
Volatility	112.5% to 124.1%	97.5% to 107.5%
Expected life (years)	1.4 to 4.9	2.1 to 4.3
Dividend yield	—%	—%

A summary of the Company's liability classified warrant activity during the nine months ended September 30, 2020 and related information follows:

	Number of Shares Under Warrant	Range of Warrant Exercise Price per Share		Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (Years)
Balance at January 1, 2020	10,256,193	$ 1.10	$ 2.80	$ 1.89	4.0
Granted	6,150,000	1.05	1.05	1.05	4.8
Exercised	(4,500)	1.10	1.10	1.10	—
Expired	—	—	—	—	—
Balance at September 30, 2020	16,401,693	$ 1.05	$ 2.80	$ 1.58	3.9
Vested and Exercisable at September 30, 2020	16,401,693	$ 1.10	$ 2.80	$ 1.89	3.9

In connection with the Company's stock offering that closed in February 2020, the Company issued warrants to purchase 5,625,000 shares of its common stock, that are exercisable six months from the date of issuance, at a price of $1.05 per share, subject to adjustment in certain circumstances, and expire five years from the date they are first exercisable, and issued Oppenheimer & Co. Inc. a warrant (Underwriter Warrant) to purchase up to 525,000 shares of its common stock with an exercise price of $1.05 per share, subject to adjustment in certain circumstances, which expires in February 2025.

For a summary of the changes in fair value associated with our warrant liability for the nine months ended September 30, 2020, see Note 2 - Basis of presentation, principles of consolidation and significant accounting policies - Fair Value of Financial Instruments.

Equity Classified Warrants

In April 2020, equity warrants to purchase up to 100,000 shares of common stock were issued to a consultant, with vesting contingent on certain conditions focused on generating up to $10 million of approved research and development expenditures on the Company's drug portfolio.

At September 30, 2020 the Company had 607,802 equity classified warrants outstanding and 512,802 warrants were exercisable. At December 31, 2019, the Company had 507,802 equity classified warrants outstanding and all were exercisable.

The Company recorded zero and $92,000 in stock compensation expense for non-employee consulting agreements for the three months ended September 30, 2020 and 2019, respectively, and $5,000 and $94,000 during the nine months ended September 30, 2020 and 2019, respectively. At September 30, 2020, there was $91,000 of unrecognized stock compensation expense related to the Company's equity-classified warrants.

5. Equity

July 2020 Stock Issuances

In July 2020, pursuant to the 2019 ATM Agreement, the Company issued 1,301,126 shares of common stock at an average price of $1.47 per share through the ATM Prospectus Supplement. The Company received total proceeds of $1.9 million, net of $0.1 million in transaction expenses. Previously, in April 2020, pursuant to the 2019 ATM Agreement, the Company issued 7,170,964 shares of common stock at an average price of $1.44 per share through the ATM Prospectus Supplement. The Company received total proceeds of $10.3 million, net of $0.3 million in transaction expenses.

February 2020 Stock Offering

In February 2020, the Company entered into subscription agreements with certain institutional investors for the sale by the Company of 7,500,000 shares of its common stock and warrants to purchase 5,625,000 shares of common stock at a combined public offering price of $0.80 per share and related warrant. The Company received total proceeds of $6.0 million, net of $0.7 million in transaction expenses. See Note 4 - Warrants for equity classified warrants granted during the nine months ended September 30, 2020.

Stock-based Compensation and Outstanding Awards

Under the terms of the Company’s 2015 Stock Plan, as amended, and approved by its stockholders in June 2020, 10.5 million shares of the Company’s common stock were available for grant to employees, non-employee directors and consultants. The 2015 Stock Plan provides for the grant of stock options, stock awards, stock unit awards, or stock appreciation rights. As of September 30, 2020, there were 4,409,132 shares remaining to be issued under the 2015 Stock Plan.

Stock-based compensation for the three and nine months ended September 30, 2020 and 2019, respectively (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2020	2019	2020	2019
General and administrative	$ 366	$ 430	$ 1,029	$ 1,003
Research and development	94	59	236	152
Total Stock-based Compensation Expense	$ 460	$ 489	$ 1,265	$ 1,155

Each of the Company's stock-based compensation arrangements are discussed below.

Stock Options

Stock option awards are generally granted with an exercise price equal to the market price of the Company’s stock at the date of grant. Stock option awards generally have a 10-year contractual term and vest over a 4-year period for employees and over a 1 to 3-year period for directors from the grant date on a straight-line basis over the requisite service period. The grant-date fair value of stock options is determined using the Black-Scholes option-pricing model. Additionally, the Company’s stock options provide for full vesting of unvested outstanding options, in the event of a change of control of the Company.

The fair value of each stock option is estimated on the date of grant using the Black-Scholes option valuation model that uses the assumptions noted below. The expected term of the stock option awards was computed using the “plain vanilla” method as prescribed by the Securities and Exchange Commission Staff Accounting Bulletin 107 because the Company does not have sufficient data regarding employee exercise behavior to estimate the expected term. Beginning in 2020, the Company used the volatility of its own stock in the

BSM as it now has sufficient historic data in its stock price. Prior to 2020, the volatility was determined by referring to the average historical volatility of a peer group of public companies combined with its own due to the lack of sufficient historical data of its stock price. The risk-free rate for periods within the contractual life of the option is based on the U.S. Treasury yield curve in effect at the time of grant.

The fair value of the option grants has been estimated, with the following weighted-average assumptions:

	Nine Months Ended September 30,	
Stock Option Assumptions:	**2020**	**2019**
Risk-free interest rate	0.2% to 0.5%	1.0% to 1.3%
Expected volatility of common stock	125.4% to 128.0%	85% to 100%
Expected life (years)	3.8 to 6.3	5.3 to 6.3
Expected dividend yield	—%	—%

Stock option activity for the nine months ended September 30, 2020 is as follows:

	Number of Shares	Weighted Average Grant Date Fair Value	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value
Outstanding, December 31, 2019	3,836,000	$ 1.59	$ 2.26	8.3	$ —
Granted	1,554,750	$ 0.83	$ 0.95		
Exercised	—	$ —	$ —		
Forfeited	(20,000)	$ 0.89	$ 1.06		
Outstanding, September 30, 2020	5,370,750	$ 1.37	$ 1.88	8.1	$ —
Exercisable, September 30, 2020	1,978,917	$ 1.91	$ 2.79	7.2	$ —

Options granted during 2020 have an aggregated fair value of $1.3 million that was calculated using the Black-Scholes option-pricing model. At September 30, 2020, total compensation cost not yet recognized was $3.0 million and the weighted average period over which this amount is expected to be recognized is 2.65 years. The aggregate fair value of options vesting in the nine months ended September 30, 2020 and 2019, respectively, was $1.2 million and $1.0 million, respectively. In July 2020, the Company granted 1,349,750 employee stock options. In August 2020, the Company issued 100,000 options to Dr. Waldemar Priebe, one of the Company's founders and chair of our Scientific Advisory Board. In October 2020, the Company granted 40,000 stock options, with 3-year annual vesting upon appointment of Elizabeth Cermak to the Company's Board of Director's.

Restricted Stock

Restricted stock units are granted with a grant date fair value determined using the closing price of the Company's common stock on the grant date. Restricted stock units vest annually in four equal installments. Additionally, the Company’s restricted stock unit agreements provide for full vesting of the restricted stock award in the event of a change of control of the Company.

Restricted stock unit activity for the nine months ended September 30, 2020 is as follows:

	Number of Shares	Weighted Average Grant Date Fair Value	Weighted Average Remaining Contractual Term (in years)
Unvested Shares, December 31, 2019	316,907	$ 1.31	3.5
Granted	353,211	$ 0.93	
Vested	(79,227)	$ 1.31	
Unvested Shares, September 30, 2020	590,891	$ 1.08	3.3

As of September 30, 2020, total compensation cost not yet recognized was $0.6 million and the weighted average period over which this amount is expected to be recognized is 3.3 years.

6. Income Taxes

Deferred income tax assets and liabilities are determined based upon differences between the financial reporting and tax basis of assets and liabilities and are measured using the enacted tax rates and laws that will be in effect when the differences are expected to reverse. The Company does not expect to pay any significant federal, state, or foreign income taxes in 2020 as a result of the losses recorded during the three and nine months ended September 30, 2020 and the additional losses expected for the remainder of 2020 and cumulative net operating loss carryforwards. Accounting standards require the consideration of a valuation allowance for deferred tax assets if it is “more likely than not” that some component or all of the benefits of deferred tax assets will not be realized. As a result, as of September 30, 2020, the Company maintained a full valuation allowance for all deferred tax assets.

The Company recorded an income tax provision of zero and $229,000 for the three and nine months ended September 30, 2020 and 2019, respectively. The effective tax rate for the three months ended September 30, 2020 and 2019 is 0% and 5.2%, respectively. The effective tax rate for the nine months ended September 30, 2020 and 2019 is 0% and 1.4%, respectively. The total income tax benefit for the nine months ended September 30, 2019 was comprised of research and development tax credits recoverable, associated with Moleculin Australia Pty. Ltd, (MAPL), a wholly-owned subsidiary formed in June 2018, related to preclinical development in Australia. There were no research and development tax credits for the nine months ended September 30, 2020. The income tax rates vary from the federal and state statutory rates primarily due to the change in fair value of the stock warrants and valuation allowances on the Company's deferred tax assets. The Company estimates its annual effective tax rate at the end of each quarterly period. Jurisdictions with a projected loss for the year where no tax benefit can be recognized due to the valuation allowance could result in a higher or lower effective tax rate during a particular quarter depending on the mix and timing of actual earnings versus annual projections.

On March 27, 2020, Congress enacted the Coronavirus Aid, Relief, and Economic Security Act (CARES Act) to provide certain relief as a result of the COVID-19 pandemic. The CARES Act, among other things, includes provisions relating to net operating loss carry back periods, alternative minimum tax credit refunds, and modification to the net interest deduction limitations. The CARES Act did not have a material impact on the Company's condensed consolidated financial statements for the nine months ended September 30, 2020. The Company continues to monitor any effects that may result from the CARES Act.

7. Commitments and Contingencies

In addition to the commitments and contingencies described elsewhere in these notes, see below for a discussion of the Company's commitments and contingencies as of September 30, 2020.

Lease Obligations Payable

During the nine months ended September 30, 2020, the Company did not enter into any lease arrangements requiring any additional right-of-use assets or liabilities to be recorded.

The following summarizes quantitative information about the Company's operating leases for the three and nine months ended September 30, 2020 and 2019, respectively (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2020	2019	2020	2019
Lease cost:				
Operating lease cost	$ 29	$ 15	$ 87	$ 31
Short-term lease cost	4	12	13	38
Variable lease cost	7	7	22	19
Total	$ 40	$ 34	$ 122	$ 88

The Company recorded approximately $10,000 and $31,000 in sublease income from a related party for the three and nine months ended September 30, 2020, respectively. Sublease income is recorded as other income, net on the Company's condensed consolidated statement of operations and comprehensive loss.

Other supplemental cash flow information for operating leases is as follows (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2020	2019	2020	2019
Cash paid for amounts included in the measurement of lease liabilities:				
Operating cash flows from operating leases	$ 34	$ 20	$ 100	$ 41
Right-of-use assets obtained in exchange for lease liabilities:				
Operating leases	$ —	$ 212	$ —	$ 321

At September 30, 2020, future minimum liabilities under ASC 842 for the Company's operating leases were as follows (in thousands):

Maturity of lease liabilities	As of September 30, 2020
2020 (remaining three months)	$ 34
2021	138
2022	105
2023	56
2024	10
2025 and thereafter	—
Total lease payments	343
Less: imputed interest	(39)
Present value of operating lease liabilities	$ 304

As of September 30, 2020, the weighted average remaining lease term for operating leases is 2.7 years, and the weighted average discount rate is 9.6%. The interest rate implicit in lease contracts is typically not readily determinable and as such, the Company uses an incremental borrowing rate based on a peer analysis using information available at the commencement date, which represents an internally developed rate that would be incurred to borrow, on a collateralized basis, over a similar term, an amount equal to the lease payments in a similar economic environment.

Licenses

MD Anderson - Total expenses related to the Company's license agreements with MD Anderson were $61,000 and $60,000 for the three months ended September 30, 2020 and 2019, respectively, and $183,000 and $180,000 for the nine months ended September 30, 2020 and 2019, respectively.

HPI - On March 16, 2020, the Company entered into two agreements with a related party, Houston Pharmaceuticals, Inc. (HPI). The first agreement, which has a term of two years, continues a prior consulting arrangement with HPI on the Company's licensed molecules and requires payments for $43,500 per quarter to HPI. The second agreement, which can be cancelled with sixty days' notice by either party, allows the Company's employees access to laboratory equipment owned by HPI for a payment of $15,000 per quarter to HPI. Total expenses related to the Company's agreements with HPI were $59,000 and zero for the three months ended September 30, 2020 and 2019, respectively, and $226,000 and $75,000 for the nine months ended September 30, 2020 and 2019, respectively.

Sponsored Research Agreements with MD Anderson - MBI entered into a Sponsored Laboratory Study Agreement with MD Anderson expiring in October 2021. The expenses recognized under this MD Anderson agreement with regards to the Sponsored Laboratory Study Agreement were $212,000 and $177,000 for the three months ended September 30, 2020 and 2019, respectively, and $537,000 and $366,000 for the nine months ended September 30, 2020 and 2019, respectively.

8. Subsequent Events

In addition to the subsequent events discussed elsewhere in these notes, see below for a discussion of our subsequent events occurring after September 30, 2020.

2020 ATM Agreement - As previously reported, in July 2020, the Company entered into an At Market Issuance Sales Agreement (Agreement) with Oppenheimer & Co. Inc. (2020 ATM Agreement). Pursuant to the terms of the Agreement, the Company may sell from time to time through Oppenheimer shares of the Company’s common stock with an aggregate sales price of up to $15.0 million. In October 2020, the Company issued 700,339 shares of common stock at an average price of $0.83 per share through the 2020 ATM Agreement, resulting in net proceeds to the Company of $0.6 million. The Company paid a commission to Oppenheimer equal to 3.0% of the gross proceeds from the sale of its common stock under the 2020 ATM Agreement. The 2019 ATM Agreement expired at the end of the third quarter.

2020 Lincoln Park Equity Line - On November 11, 2020, the Company entered into a purchase agreement (the “2020 Purchase Agreement”) and a registration rights agreement (the “2020 Registration Rights Agreement”) with Lincoln Park Capital Fund, LLC (“Lincoln Park”). Pursuant to the terms of the 2020 Purchase Agreement, Lincoln Park has agreed to purchase from the Company up to

$22.0 million of the Company's common stock (subject to certain limitations) from time to time during the term of the 2020 Purchase Agreement. Pursuant to the terms of the 2020 Registration Rights Agreement, the Company filed with the SEC a registration statement to register the shares that have been or may be issued to Lincoln Park under the 2020 Purchase Agreement.

Pursuant to the terms of the 2020 Purchase Agreement, at the time the Company signed the 2020 Purchase Agreement and the 2020 Registration Rights Agreement, the Company issued 760,194 shares of common stock to Lincoln Park as consideration for its commitment to purchase shares of our common stock under the 2020 Purchase Agreement and may issue an additional 304,077 shares pro-rata when and if Lincoln Park purchases (at the Company's discretion) the $22.0 million aggregate commitment.

On November 12, 2020, the Company sold Lincoln Park at $0.707 per share 2,829,214 shares of common stock for aggregate consideration of $2.0 million, and issued 27,643 in additional commitment shares.

On November 11, 2020, the Company terminated its purchase agreement dated October 4, 2018 with Lincoln Park.

ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

This Form 10-Q, including the Management's Discussion and Analysis of Financial Condition and Results of Operations contains certain forward-looking statements. Historical results may not indicate future performance. Our forward-looking statements reflect our current views about future events, are based on assumptions and are subject to known and unknown risks and uncertainties that could cause actual results to differ materially from those contemplated by these statements.

Forward-looking statements include, but are not limited to, statements about:

- The impact the recent Coronavirus outbreak will have on our ability to continue our operations including our clinical trials, preclinical activities and our ability to raise future financing;
- Our ability to continue our relationship with MD Anderson, including our ability to license future intellectual property resulting from our sponsored research agreements with MD Anderson;
- Our ability to obtain additional funding to commence or continue our clinical trials, fund operations and develop our product candidates;
- Our ability to satisfy any requirements imposed by the FDA (or its foreign equivalents) as a condition of our clinical trials proceeding or beginning as planned;
- The success, including the ability to recruit patients, of our clinical trials through all phases of clinical development;
- The need to obtain and retain regulatory approval of our drug candidates, both in the United States, in Poland, and in countries deemed necessary for future trials;
- Our ability to complete our clinical trials in a timely fashion and within our expected budget and resources;
- Compliance with obligations under intellectual property licenses with third parties;
- Any delays in regulatory review and approval of drug candidates in clinical development;
- Our ability to commercialize our drug candidates;
- Market acceptance of our drug candidates;
- Competition from existing therapies or new therapies that may emerge;
- Potential product liability claims;
- Our dependency on third-party manufacturers to successfully, and timely, supply or manufacture our drug candidates for our preclinical work and our clinical trials;
- Our ability to establish or maintain collaborations, licensing or other arrangements;
- The ability of our sublicense partners to successfully develop our product candidates in accordance with our sublicense agreements;
- The effects of future government shutdowns on our ability to raise financing;
- Our ability and third parties' abilities to protect intellectual property rights;
- Our ability to adequately support future growth; and
- Our ability to attract and retain key personnel to manage our business effectively.

We undertake no obligation to publicly update or revise any forward-looking statements, including any changes that might result from any facts, events, or circumstances after the date hereof that may bear upon forward-looking statements. Furthermore, we cannot guarantee future results, events, levels of activity, performance, or achievements.

Overview

Moleculin Biotech, Inc., a Delaware corporation, is a clinical stage pharmaceutical company focused on the treatment of highly resistant cancers and viruses. We have three core technologies, all of which are based on discoveries made at M.D. Anderson Cancer Center (MD Anderson). We have three drug candidates, representing two of the three core technologies, that have shown human activity in clinical trials.

In 2019, those three drug candidates were active in five clinical trials in the US and Europe. Of these five clinical trials, two are primarily externally funded. For two of our internally funded trials, we successfully concluded the Phase 1 portion recently and are conducting follow-up observations. We anticipate pursuing pre-clinical work in 2020 for two additional Phase 1 trials expected to begin

in 2021 sponsored by us and two to three other Phase 1 trials we expect to be externally sponsored. In 2020, one externally funded clinical trial began. Currently, we have three clinical trials active in the US and in Europe with only one internally funded.

By "internally funded" we mean that the primary costs of the preclinical activity and clinical trials are funded by us. "Externally funded" drug candidates include those for which preclinical work is performed by external collaborators and for which clinical trials are investigator-initiated. In such cases any grant funds that support such preclinical work or clinical trials and most of the associated expenses do not flow through our financial statements. We do provide drug product and other minor supporting activities for externally funded preclinical activities and clinical trials.

We recently announced collaborations with third parties to assist us in developing potential treatments for diseases like COVID-19. The preclinical work to evaluate the potential of molecules within the WP1122 portfolio of antimetabolites (which include inhibitors of glycolysis and glycosylation) against the viruses is mostly similar to the preclinical work we originally planned for 2020 to develop WP1122 for cancer indications. Accordingly, we believe the preclinical work under way for WP1122 will support an Investigational New Drug (IND) application or its equivalent for either cancer-related or virus-related clinical trials (or both) in the first half of 2021. This timing is mainly due to the limited access to in vivo testing. Additionally, we are primarily relying on such collaborations for testing other molecules in the WP1122 portfolio against other hard to treat viruses.

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Based on our positive pre-clinical and clinical activity thus far, we have further narrowed our internal development focus to our nearest term opportunities, especially where human activity has been shown in clinical trials. This focus is primarily on preclinical and clinical activities with Annamycin, preclinical activities associated with an intravenous version of WP1066 and IND-enabling studies of WP1122. We intend to rely on external funding, to the extent available, for other projects. In light of the COVID-19 pandemic, the associated opportunity has accelerated our development of the WP1122 portfolio with a combined effort of internally and externally funded preclinical work to support an IND application with the FDA or its international equivalent for the treatment of COVID-19 or a cancer indication or both. We believe our overall narrowing of focus will allow us to limit our cash needs to the essential opportunities until we reach a significant value inflection point, although we will continue to require additional external capital during this period. In addition, institutional support for our technologies has increased and we believe such support may provide external funding to help support future cash needs. Such expectations assume some form of government or strategic collaboration for WP1122 if it is successful in advancing from preclinical to clinical activity for the treatment of viruses. We have no commitments at this time for such funding, and we can provide no assurances that such funding can be obtained. At this time we do not intend to pursue clinical trials for WP1122 for the treatment of viruses until we are able to secure external funding for such trials.

Of our three clinical stage drug candidates, Annamycin is currently in a clinical trial for the treatment of acute myeloid leukemia (AML) in Poland. It is also being studied for the treatment of cancers metastasized to the lungs. WP1066, an Immune/Transcription Modulator (p-STAT3 inhibitor) is intended to target a wide range of tumors, including brain tumors such as glioblastoma (GBM) and pediatric brain tumors (like diffuse intrinsic pontine glioma, or DIPG, and medulloblastoma), as well as pancreatic cancer. It is currently in two investigator-initiated clinical trials, one for adult GBM and another for pediatric brain tumors (like DIPG and medulloblastoma). We began and completed a "proof-of-concept" Phase 1 clinical trial in 2019 in Poland for a third drug, WP1220 (a molecule similar to WP1066), for the topical treatment of cutaneous T-cell lymphoma (CTCL). We intend to attempt to join efforts with a strategic partner in the near term for external funding for the continued development of WP1220 as a topical therapy for CTCL. We are also engaged in preclinical development of additional drug candidates, including additional Immune/Transcription Modulators, as well as antimetabolites, including Metabolism/Glycosylation Inhibitors.

We consider Annamycin to be a "next generation" anthracycline, unlike any currently approved anthracyclines, as it is designed to avoid multidrug resistance mechanisms with little to no cardiotoxicity (two problems common to all currently approved anthracyclines). We recently received an independent expert cardiology assessment confirming the absence of cardiotoxicity in the first 19 patients treated with Annamycin in both our US and European Phase 1 clinical trials, validating Annamycin's lack of cardiotoxicity. Annamycin is currently in one Phase 1/2 clinical trial in Europe with the Phase 1 portion of another Phase 1/2 AML trial having been recently concluded in the US, subject to continued patient observations. The US trial met its primary endpoint of safety. As a result of discussions with the FDA, the Company will focus on establishing a recommended Phase 2 dose (RP2D) in its trial in Europe and generating additional safety and efficacy data as requested by the FDA. The Poland trial is in its fifth cohort where patients are being treated at 240 mg/m2. The second patient in that cohort experienced a dose limiting toxicity (DLT), secondarily related to concomitant medication not being withheld. The DLT was resolved, and that cohort will be expanded to a total of six patients. If a second DLT in this cohort occurs, then we would enroll three subjects that would be treated at 210 mg/m2 to confirm the maximum tolerated dosage. If no additional DLT occurs in the current cohort, then we will progress to the sixth cohort at 300 mg/m2.

We believe the impact of the COVID-19 pandemic is slowing the pace of our patient recruitment in our Polish Annamycin clinical trial. We cannot assess when such an impact on our trial will be alleviated or if it will worsen.

In 2019, preclinical work on Annamycin demonstrated activity against certain cancers metastasized to the lungs. With this new data, we held a Pre-IND Meeting with the FDA in the third quarter of 2020, and with that input we intend to file an IND or its equivalent for a clinical trial for the treatment of cancer metastasized to the lungs with Annamycin by the end of 2020, although no assurances can be given that such trial will begin.

WP1066 is one of several Immune/Transcription Modulators designed to stimulate the immune response to tumors by inhibiting the errant activity of Regulatory TCells (TRegs) while also inhibiting key oncogenic transcription factors, including p-STAT3, c-Myc and HIF-1á. These transcription factors are widely sought targets that may also play a role in the inability of immune checkpoint inhibitors to affect more resistant tumors. WP1066 is currently in two US physician-sponsored Phase 1 clinical trials, one at MD Anderson for the treatment of GBM in adults and another at Emory University for the treatment of pediatric brain tumors. The trial at MD Anderson has begun the fourth and final cohort in the dose escalation phase. The Emory trial has now successfully treated three patients in the first cohort and the first patient in the second cohort has begun treatment at the dose level of 6mg/kg. In that trial, one of the patients with DIPG showed an apparent response to the treatment with both clinical improvement and radiologic reduction of tumor size. We caution that this preliminary data and no conclusions should be drawn from this single event. Another physician-sponsored Phase 1 trial is being considered for the treatment of GBM with WP1066 in combination with radiation, although no assurances can be given that such trial will begin.

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Although WP1122 is a prodrug of 2-DG, the WP1122 Portfolio includes other antimetabolites comprising prodrugs of alternate sugar structures that may also prove useful as antiviral and/or anticancer therapies. The Company is currently evaluating some of these other antimetabolite molecules for potential translational development.

Recent Business Developments

Below are recent business developments.

Annamycin

Independent Study Validates Annamycin's Ability to Target Lung Localized Tumors

On October 21, 2020, we announced results from an independent laboratory validating internal animal studies showing the ability of Annamycin to target lung localized tumors. The relevance of targeting lung localized tumors is that it could provide a means to address a significant unmet need in cancer therapy. Specifically, there are limited treatment options for lung metastases resulting from a primary tumor, even though the primary tumor may have been treatable.

Successful Completion of Pre-IND Meeting with the FDA

On September 9, 2020, we announced that we successfully completed a Pre-IND Meeting with the FDA regarding the development plan for Annamycin, including the clinical study design and dosing strategy for the initial Phase 1b/2 protocol for soft tissue sarcomas with lung metastases. We submitted a proposed clinical protocol for FDA review entitled, "Phase 1b/2 Study of Liposomal Annamycin (Annamycin) in Subjects with Previously Treated Soft-Tissue Sarcomas with Pulmonary Metastases." The proposed study is an open-label, multicenter, single-arm, dose escalation and expansion study to evaluate single-agent Annamycin in up to 55 patients with soft tissue sarcoma (STS) with lung metastases for whom chemotherapy is considered appropriate. The primary objectives of the dose escalation phase are to evaluate the safety of Annamycin and identify the maximum tolerated dose (MTD) or the recommended Phase 2 dose (RP2D).

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WP1066

Positive Interim Results in Adult Glioblastoma Clinical Trial

On October 13, 2020, we announced additional preliminary data from the Phase 1 clinical trial of our immuno-stimulating STAT3 inhibitor, WP1066, in patients with GBM. This supports the progression of the trial to the fourth and final dose escalation cohort. Three patients have completed treatment in the third cohort at a dose level of 8 mg/kg with no adverse events related to WP1066 and the study will now proceed to the next higher dose of 16 mg/kg.

Positive Interim Results in Pediatric Brain Tumor Phase 1 Clinical Trial

On October 1, 2020, we announced preliminary first cohort data from the Emory University physician-sponsored clinical trial being conducted at the Aflac Cancer and Blood Disorders Center at Children's Healthcare of Atlanta by Dr. Tobey MacDonald, Professor of Pediatrics and Director of the Pediatric Neuro-Oncology Program. He is studying the use of WP1066 (AflacST1901), a proprietary Moleculin drug candidate, as a potential treatment for childhood brain tumors. The first three patients in the trial received treatment at a dose level of 4 mg/kg with no adverse events related to WP1066 and the study will now proceed to the next higher dose of 6 mg/kg. One of these patients with DIPG, showed an apparent response to the treatment with both clinical improvement and radiologic reduction of tumor size. We caution that this is preliminary data and no conclusions should be drawn from this single event.

WP1122

Additional Collaboration on Drug Candidate Targeting COVID-19

On October 29, 2020, we announced we have entered into an agreement with the University of Campinas in São Paulo, Brazil to further enable collaboration into its research on the anti-viral capabilities of our drug candidate WP1122, specifically for the coronavirus. Recently the University of Campinas published independent research demonstrating that SARS-CoV-2 infection is supported by elevated glucose levels and that inhibition of glycolysis with 2-DG effectively eliminated viral load in vitro. WP1122 is a prodrug of 2-DG.

New Antiviral Drug Candidates Demonstrate In Vitro Activity Against HIV

On October 6, 2020, we announced preliminary new findings from our research collaboration with the Rega Institute in Leuven, Belgium, that demonstrates our drug candidates, WP1096 and WP1097, are showing significant in vitro activity in a range of infectious diseases. In addition to activity against SARS-CoV-2, antiviral activity has now been documented for HIV, Zika and Dengue Fever. WP1096 and its close analog, WP1097, are structurally slightly different agents within our WP1122 portfolio. While we are continuing our preclinical development work on WP1122, including in vivo testing for SARS-CoV-2, we have now expanded our infectious disease program to include these two molecules.

Significant In Vitro Activity Against COVID-19 Virus for New Antimetabolites

On September 29, 2020, we announced that our research team has discovered that a molecule within our portfolio of antimetabolites has displayed significant in vitro antiviral activity against SARS-CoV-2. Independent laboratory testing of the new drug candidate, called "WP1096," has now repeatedly demonstrated a therapeutic index of greater than 10, which is considered by our team to be an industry-standard commercialization threshold for in vitro performance of antiviral drugs.

In Vivo Testing Contracted for WP1122

On September 14, 2020, we announced that we have contracted with an independent laboratory to test the antiviral activity of our WP1122 portfolio in a COVID-19 animal model. We contracted with an independent laboratory for in vivo testing of our drug candidate, WP1122 and another candidate from the same portfolio development as a possible treatment for COVID-19. The testing will involve that laboratory's hamster model and SARS-COV-2. We have since postponed this testing to determine if a more preferred animal model can be obtained.

Corporate

Appointment of Elizabeth Cermak to Board of Directors

On October 5, 2020, we announced the appointment of Elizabeth (Liz) Cermak, an accomplished life sciences board director with deep pharmaceutical business development expertise, to our Board of Directors.

2020 Lincoln Park Equity Line

On November 11, 2020, we entered into a purchase agreement (the "2020 Purchase Agreement") and a registration rights agreement (the "2020 Registration Rights Agreement") with Lincoln Park Capital Fund, LLC ("Lincoln Park"). Pursuant to the terms of the 2020 Purchase Agreement, Lincoln Park has agreed to purchase from us up to $22.0 million of our common stock (subject to certain limitations) from time to time during the term of the 2020 Purchase Agreement. Pursuant to the terms of the 2020 Registration Rights Agreement, we filed with the SEC a registration statement to register the shares that have been or may be issued to Lincoln Park under the 2020 Purchase Agreement.

Pursuant to the terms of the 2020 Purchase Agreement, at the time we signed the 2020 Purchase Agreement and the 2020 Registration Rights Agreement, we issued 760,194 shares of common stock to Lincoln Park as consideration for its commitment to purchase shares of our common stock under the 2020 Purchase Agreement and may issue an additional 304,077 shares pro-rata when and if Lincoln Park purchases (at our discretion) the $22.0 million aggregate commitment.

On November 12, 2020, we sold Lincoln Park at $.707 per share 2,829,214 shares of common stock for aggregate consideration of $2.0 million, and issued 27,643 in additional commitment shares.

On November 11, 2020, we terminated our purchase agreement dated October 4, 2018 with Lincoln Park.

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Results of Operations

The following table sets forth, for the periods indicated, data derived from our statement of operations (in thousands) and such changes in the periods are discussed below in approximate amounts:

Moleculin Biotech, Inc.
Condensed Consolidated Statements of Operations
(Unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2020	2019	2020	2019
Revenues	$ —	$ —	$ —	$ —
Operating expenses:				
Research and development	4,435	2,785	10,971	7,816
General and administrative	1,659	1,672	5,122	4,748
Depreciation and amortization	57	51	154	147
Total operating expenses	6,151	4,508	16,247	12,711
Loss from operations	(6,151)	(4,508)	(16,247)	(12,711)
Other income (loss):				
Gain from change in fair value of warrant liability	2,743	124	1,489	3,059
Other income, net	10	5	32	5
Interest income, net	3	5	10	10
Net loss before taxes	$ (3,395)	$ (4,374)	$ (14,716)	$ (9,637)

Three Months Ended September 30, 2020 Compared to Three Months Ended September 30, 2019

Research and Development Expense. Research and development (R&D) expense was $4.4 million and $2.8 million for the three months ended September 30, 2020 and 2019, respectively. The increase of $1.6 million is mainly related to increased clinical trial activity as described above, increased license fees and costs related to sponsored research agreements, costs related to manufacturing of additional drug product and two additional employees in R&D headcount.

General and Administrative Expense. General and administrative expense was $1.7 million for the three months ended September 30, 2020 and 2019, respectively. The increase in our directors' and officers' liability insurance was offset by a similar decrease in travel expenses.

Gain from Change in Fair Value of Warrant Liability. We recorded a net gain of $2.7 million in the third quarter of 2020 as compared to a net gain of $0.1 million in the third quarter of 2019, for the change in fair value on revaluation of our warrant liability associated with our warrants issued in conjunction with our stock offerings. We are required to revalue our liability-classified warrants at the time of each warrant exercise, if applicable, and at the end of each reporting period and reflect in the statement of operations a gain or loss from the change in fair value of the warrant in the period in which the change occurred. We calculated the fair value of the warrants outstanding using the Black-Scholes model. A gain results principally from a decline in our share price during the period and a loss results principally from an increase in our share price.

Nine Months Ended September 30, 2020 Compared to Nine Months Ended September 30, 2019

Research and Development Expense. R&D expense was $11.0 million and $7.8 million for the nine months ended September 30, 2020 and 2019, respectively. The increase of $3.2 million is mainly related to increased clinical trial activity, increased license fees and costs related to sponsored research agreements, costs related to manufacturing of additional drug product and two additional employees in R&D headcount.

General and Administrative Expense. General and administrative expense was $5.1 million and $4.7 million for the nine months ended September 30, 2020 and 2019, respectively. The increase of $0.4 million was mainly attributable to increased payroll costs for an additional finance employee, increased stock-based compensation expense for annual employee stock, and increased costs for directors and officer's liability insurance being partially offset by reduced travel expenses.

Gain from Change in Fair Value of Warrant Liability. We recorded a net gain of $1.5 million in the nine months ended September 30, 2020 as compared to a net gain of $3.1 million in 2019, for the change in fair value on revaluation of our warrant liability associated with our warrants issued in conjunction with our stock offerings. We are required to revalue our liability-classified warrants at the time of each warrant exercise, if applicable, and at the end of each reporting period and reflect in the statement of operations a gain or loss from the change in fair value of the warrant in the period in which the change occurred. We calculated the fair value of the warrants outstanding using the Black-Scholes model. A gain results principally from a decline in our share price during the period and a loss results principally from an increase in our share price.

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Liquidity and Capital Resources

The following table sets forth our primary sources and uses of cash for the period indicated (in thousands):

	Nine Months Ended September 30,	
	2020	**2019**
Net cash used in operating activities	$ (14,647)	$ (12,521)
Net cash used in investing activities	(360)	(42)
Net cash provided by financing activities	17,065	20,854
Effect of exchange rate changes on cash and cash equivalents	2	(16)
Net increase in cash and cash equivalents	$ 2,060	$ 8,275

As of September 30, 2020, there was $0.3 million of cash on hand in Australia. We maintain a bank account in Australia and know of no related limitations impacting our liquidity in Australia.

Cash used in operating activities

Cash used in operations was $14.6 million for the nine months ended September 30, 2020. This $2.1 million increase over the prior year period of $12.5 million was primarily due to: 1) payments for developing, manufacturing and testing drug product as we prepared for clinical trials; 2) an increase in R&D employee and contractor headcount and associated payroll costs; 3) an increase in paid sponsored research and related expenses; and 4) an increase in license fees. These are all a reflection of the ongoing clinical and pre-clinical activity and the associated increase in general and administrative support for our three core drug technologies.

Cash used in investing activities

Net cash used in investing activities was $360,000 for the nine months ended September 30, 2020 compared to $42,000 for the nine months ended September 30, 2019. The increase relates to mass spectrometer equipment purchased for the lab in 2020. The

equipment will be used to analyze uptake, metabolism, and tissue organ distribution of anti-cancer and anti-viral agents, which is critical for determination of pharmacokinetic and pharmacodynamic parameters of the drugs.

Cash provided in financing activities

In July 2019, we entered into an At Market Issuance Sales Agreement (2019 ATM Agreement) with Oppenheimer & Co. Inc. (Oppenheimer). Pursuant to the terms of the 2019 ATM Agreement, we may offer and sell, from time to time, our common stock through Oppenheimer, acting as agent, through an "at the market offering" as defined in Rule 415(a)(4) (ATM Offering) promulgated under the Securities Act.

During the nine months ended September 30, 2020, pursuant to the 2019 ATM Agreement, we issued 8,472,090 shares of common stock at an average price of $1.45 per share, resulting in net proceeds of $11.9 million. We paid a commission to Oppenheimer equal to 3.0% of the gross proceeds from the sale of our common stock under the 2019 ATM Agreement. In the third quarter of 2020, the 2019 ATM Agreement expired and was terminated.

On November 11, 2020, we entered into a purchase agreement (the “2020 Purchase Agreement”) and a registration rights agreement (the “2020 Registration Rights Agreement”) with Lincoln Park Capital Fund, LLC (“Lincoln Park”). Pursuant to the terms of the 2020 Purchase Agreement, Lincoln Park has agreed to purchase from us up to $22.0 million of the Company’s common stock (subject to certain limitations) from time to time during the term of the 2020 Purchase Agreement. Pursuant to the terms of the 2020 Registration Rights Agreement, we filed with the SEC a registration statement to register the shares that have been or may be issued to Lincoln Park under the 2020 Purchase Agreement.

Pursuant to the terms of the 2020 Purchase Agreement, at the time we signed the 2020 Purchase Agreement and the 2020 Registration Rights Agreement, we issued 760,194 shares of common stock to Lincoln Park as consideration for its commitment to purchase shares of our common stock under the 2020 Purchase Agreement and may issue an additional 304,077 shares pro-rata when and if Lincoln Park purchases (at our discretion) the $22.0 million aggregate commitment.

On November 12, 2020, we sold Lincoln Park at $.707 per share 2,829,214 shares of common stock for aggregate consideration of $2.0 million, and issued 27,643 in additional commitment shares.

On November 11, 2020, we terminated our purchase agreement dated October 4, 2018 with Lincoln Park.

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In July 2020, we entered into a new At Market Issuance Sales Agreement with Oppenheimer & Co. Inc. (2020 ATM Agreement). Pursuant to the terms of the 2020 ATM Agreement, the Company may sell from time to time through Oppenheimer shares of the Company’s common stock with an aggregate sales price of up to $15.0 million. Subsequent to the quarter ended September 30, 2020, we issued 700,339 shares of common stock at an average price of $0.83 per share resulting in net proceeds of $0.6 million in October 2020.

In February 2020, we entered into subscription agreements with institutional investors to purchase of 7,500,000 shares of our common stock and warrants to purchase 5,625,000 shares of common stock at a combined public offering price of $0.80 per share and related warrant resulting in gross proceeds of $6.0 million. Each warrant has an exercise price of $1.05 per share and were exercisable six months from the date of issuance and will expire five years from the date they were first exercisable.

In April 2019, we completed subscription agreements with institutional investors to purchase an aggregate of 9,375,000 units at a public offering price of $1.60 per unit in a registered direct offering. Each unit is comprised of one share of common stock and 0.5 of a warrant to purchase one share of common stock resulting in gross proceeds of $15.0 million. Each warrant has an exercise price of $1.75 per share and is exercisable immediately. The warrants will expire five years from the date of issuance.

Additionally, during the second quarter of 2019, 1,413,018 shares were issued due to the exercise of various warrants related to past public offerings. Gross proceeds received due to these exercises approximated $1.6 million.

In March 2019, we completed an underwritten offering of 5,250,000 shares of our common stock and warrants to purchase 2,650,000 shares of common stock for gross proceeds of $5.3 million. Additionally, we sold 605,367 shares of our common stock to Lincoln Park Capital Fund, LLC for $0.9 million.

We believe that our existing cash and cash equivalents as of September 30, 2020 plus the cash raised and committed subsequent to the quarter will be sufficient to fund our planned operations into the third quarter of 2021, without the issuance of additional equity for cash. Any such issuances should extend the funding of our planned operations beyond the third quarter of 2021. Such plans are subject to our stock price, market conditions, changes in planned expenses depending on clinical enrollment progress, the use of drug product or a combination thereof. Based on the Company's current assessment, the Company does not expect any material impact on its liquidity due to the worldwide spread of the COVID-19 virus.

We will not generate revenue from product sales unless and until we successfully complete development of, obtain regulatory approval for and begin to commercialize one or more of our product candidates, which we expect will take a number of years and is subject to significant uncertainty. Accordingly, we anticipate that we will need to raise additional capital to fund our future operations. Until such time that we can generate substantial revenue from product sales, if ever, we expect to finance our operating activities through a combination of equity offerings and debt financings, and we may seek to raise additional capital through strategic collaborations. However, we may be unable to raise additional funds or enter into such arrangements when needed on favorable terms, or at all, which would have a negative impact on our financial condition and could force us to delay, limit, reduce or terminate our development programs or commercialization efforts or grant to others rights to develop or market product candidates that we would otherwise prefer to develop and market ourselves. Failure to receive additional funding could cause us to cease operations, in part or in full. Furthermore, even if we believe we have sufficient funds for our current or future operating plans, we may seek additional capital due to favorable market conditions or strategic considerations, which may cause dilution to our existing stockholders.

Critical Accounting Policies and Significant Judgments and Estimates

There have been no material changes to the Company's critical accounting policies and use of estimates from those disclosed in the Company’s Form 10-K for the year ended December 31, 2019. For a discussion of our critical accounting policies and use of estimates, refer to Management’s Discussion and Analysis of Financial Condition and Results of Operations – Critical Accounting Policies and Significant Estimates in Part II, Item 7 of our Annual Report on Form 10-K for the year ended December 31, 2019.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISKS

Not applicable to us, as we are a smaller reporting company.

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ITEM 4. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

We maintain disclosure controls and procedures designed to ensure that material information required to be disclosed in our filings under the Securities Exchange Act of 1934, as amended, is recorded, processed, summarized and reported within the time periods specified in the SEC’s rules and forms and that material information is accumulated and communicated to our management, including our Chief Executive Officer (CEO) and Chief Financial Officer (CFO), as appropriate, to allow timely decisions regarding required disclosures. Our CEO and CFO have evaluated these disclosure controls and procedures as of the end of the period covered by this quarterly report on Form 10-Q and have determined that such disclosure controls and procedures were not effective due to the material weakness in our internal control over financial reporting discussed below.

In light of the material weakness described below, we performed additional procedures during the quarter and additional analysis and procedures post-closing to ensure our unaudited condensed consolidated financial statements were prepared in accordance with generally accepted accounting principles. Accordingly, we believe that the condensed consolidated financial statements included in this report fairly present, in all material respects, our financial condition, results of operations and cash flows for the periods presented.

A material weakness is a control deficiency (within the meaning of the Public Company Accounting Oversight Board Auditing Standard 1305) or combination of control deficiencies that result in more than a remote likelihood that a material misstatement of the annual or interim condensed consolidated financial statements will not be prevented or detected.

During the last quarter of fiscal 2016, and as our operational activities increased, management determined that it does not have sufficient segregation of duties within its accounting functions, which is a basic internal control. Due to our size and nature, segregation of all conflicting duties may not always be possible and may not be economically feasible. However, to the extent possible, the initiation of transactions, the custody of assets and the recording of transactions should be performed by separate individuals. Management evaluated

the impact of our failure to maintain effective segregation of duties on our assessment of our internal control over financial reporting and has concluded that the control deficiency represents a material weakness.

Changes in Internal Control Over Financial Reporting

With input and oversight from the Audit Committee, management is actively implementing a remediation plan to ensure that control deficiencies contributing to the material weakness are remediated such that these controls will operate effectively. We are taking, and expect to continue to take the following remediation actions which have facilitated the proper segregation of duties in the initiation of transactions, the recording of transactions, and the custody of assets:

- Implemented new information technology systems and policies and procedures;
- Management added additional accounting and IT personnel, including the use of qualified contractors;
- Developed formalized accounting procedures and clearly defined authorities;
- Engaged third party specialists to assess and document the design of our internal controls over financial reporting including the evaluation of proper segregation of duties, and to identify and evaluate any weaknesses in our information systems;
- Reported regularly to the audit committee on the progress and results of the remediation plan, including the identification, status and resolution of internal control deficiencies;

We believe that these actions, and the improvements we expect to achieve as a result, will effectively remediate the material weakness previously identified. However, the material weakness in our internal control over financial reporting will not be considered remediated until the remediated controls operate for a sufficient period of time and management has concluded, through testing, that these controls are operating effectively. We expect that the remediation of this material weakness will be completed in 2020.

We continuously seek to improve the efficiency and effectiveness of our internal controls. There have been no changes, except for items described above, in our internal control over financial reporting that occurred in the nine months ended September 30, 2020 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting. Our employees are working remotely due to the COVID-19 pandemic, but we do not believe that our adjustments to how we work have materially impacted our internal controls over financial reporting. We continue to monitor and assess the potential impact of the COVID-19 pandemic on our internal controls and strive to minimize the impact on our internal control design and operating effectiveness.

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PART II – OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

None.

ITEM 1A. RISK FACTORS

For information regarding factors that could affect our results of operations, financial condition and liquidity, refer to the section entitled “Risk Factors” in Part I, Item 1A in our annual report on Form 10-K for the year ended December 31, 2019. Except as updated below, there have been no material changes from the risk factors previously disclosed in our annual report on Form 10-K for the year ended December 31, 2019 as filed with the SEC.

Interim or preliminary data from our clinical trials that we announce or publish from time to time may change as more patient data become available and are subject to audit and verification procedures that could result in material changes in the final data.

We have in the past, and intend in the future, to publicly disclose preliminary data from our clinical trials, which is based on a preliminary analysis of then-available data, and the results and related findings and conclusions are subject to change following a full analyses of all data related to the particular trial. We also make assumptions, estimations, calculations and conclusions as part of our analyses of data, and we may not have received or had the opportunity to fully and carefully evaluate all data. As a result, the preliminary results that we report may differ from future results of the same trials, or different conclusions or considerations may qualify such results once additional data have been received and fully evaluated. Preliminary data also remain subject to audit and verification procedures that may result in the final data being materially different from the preliminary data we previously published. As a result, preliminary data should be viewed with caution until the final data are available. We may also disclose interim

data from our clinical trials. Interim data from clinical trials that we may complete are subject to the risk that one or more of the clinical outcomes may materially change as patient enrollment continues and more patient data become available. Adverse differences between preliminary or interim data and final data could significantly harm our business prospects. Further, disclosure of preliminary or interim data by us could result in volatility in the price of shares of our common stock.

In addition, others, including regulatory agencies, may not accept or agree with our assumptions, estimates, calculations, conclusions or analyses or may interpret or weigh the importance of data differently, which could impact the approvability of the particular drug candidate and our business in general. In addition, the information we choose to publicly disclose regarding a particular study or clinical trial is based on what is typically extensive information, and you or others may not agree with what we determine is the material or otherwise appropriate information to include in our disclosure, and any information we determine not to disclose may ultimately be deemed significant with respect to future decisions, conclusions, views, activities or otherwise regarding a particular drug candidate or our business. If the interim data that we report differ from actual results, or if others, including regulatory authorities, disagree with the conclusions reached, our ability to obtain approval for and commercialize our current or any our future drug candidate, our business, operating results, prospects or financial condition may be materially harmed.

The COVID-19 outbreak has delayed recruitment in our clinical trials and may continue or worsen, may affect the business of the FDA, EMA or other health authorities, which could result in delays in meetings related to our planned clinical trials and ultimately of reviews and approvals of our product candidates.

The COVID-19 outbreak has delayed recruitment in clinical trials and may continue or worsen. Additionally, it may delay the approvals of our product candidates due to its effect on the business of the FDA, EMA or other health authorities, which could result in delays in meetings related to planned clinical trials. The spread of COVID-19 may also slow potential enrollment of clinical trials and reduce the number of eligible patients for our clinical trials. The COVID-19 outbreak and mitigation measures also have had and may continue to have an adverse impact on global economic conditions which could have an adverse effect on our business and financial condition, including impairing our ability to raise capital when needed. The extent to which the COVID-19 outbreak impacts our business and operations will depend on future developments that are highly uncertain and cannot be predicted, including new information that may emerge concerning the severity of the virus and the actions to contain its impact. We have relationships with contract research organizations to conduct certain pre-clinical programs and testing and other services in Europe and those business operations are subject to potential business interruptions arising from protective measures that may be taken by the governmental or other agencies or governing bodies. In addition, certain of our collaborative relationships with research facilities and academic research institutions in the United States, Europe and in Australia may be materially and adversely impacted by protective measures taken by those institutions or federal and state agencies and governing bodies to restrict access to, or suspend operations at, such facilities. Such protective measures, including quarantines, travel restrictions and business shutdowns, may also have a material negative affect on our core operations.

If we breach any of the agreements under which we license patent rights or if we fail to meet certain development deadlines, pay certain fees including extension fees or exercise certain rights to technology, we could lose or fail to obtain license rights that are important to our business.

We license all of our technology from MD Anderson, and we must meet various payment and other obligations under our license agreements with MD Anderson. Our license agreements generally require that we meet various milestones by certain dates, each of which generally requires the payment of additional fees, including extension fees. To date, we have been able meet such milestones, pay certain fees or have been able to enter into extensions with MD Anderson related to such milestones. However, our failure to meet any financial or other obligations under our license agreements in a timely manner could result in the loss of our rights to our core technologies.

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We are a party to a number of license agreements with MD Anderson under which we are granted rights to intellectual property that are critical to our business and we expect that we will need to enter into additional license agreements in the future with MD Anderson based on development work we are pursuing under a sponsored research agreement. With respect to inventions arising from our sponsored research agreement, MD Anderson has provided us with an option to negotiate a royalty-bearing, exclusive license to any invention or discovery that is conceived or reduced to practice. However, regardless of such option to negotiate, we may be unable to negotiate a license within the specified time frame or under terms that are acceptable to us. If we are unable to do so, the institution may offer the intellectual property rights to other parties, potentially blocking our ability to pursue a program based on that technology.

ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

None.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES

None.

ITEM 4. MINE SAFETY DISCLOSURE

Not applicable.

ITEM 5. OTHER INFORMATION.

On November 11, 2020, Moleculin Biotech, Inc. (the "Company") entered into a purchase agreement (the "Purchase Agreement") with Lincoln Park Capital Fund, LLC ("Lincoln Park"), pursuant to which Lincoln Park has committed to purchase up to $22.0 million of shares (the "Purchase Shares") of the Company's common stock, $0.001 par value per share (the "Common Stock"). Concurrently with entering into the Purchase Agreement, the Company also entered into a registration rights agreement with Lincoln Park, pursuant to which it agreed to provide Lincoln Park with certain registration rights related to the shares issued under the Purchase Agreement (the "Registration Rights Agreement"). On the Commencement Date (as defined below), the Company sold Lincoln Park 2,829,214.00 shares of Common Stock for aggregate consideration of $2,000,000.

Beginning on the Commencement Date (as defined below) and thereafter, the Company has the right, in its sole discretion, to present Lincoln Park with a purchase notice (a "Regular Purchase Notice"), directing Lincoln Park to purchase up to 500,000 Purchase Shares (the "Regular Purchase Amount") (a "Regular Purchase"). The Regular Purchase Amount may be increased to up to 750,000 shares if the closing sale price of the Common Stock is not below $1.00 per share, and to up to 1,000,000 shares if the closing sale price of the Common Stock is not below $1.50 per share. The Company and Lincoln Park may mutually agree to increase the Regular Purchase Amount.

The Purchase Agreement provides for a purchase price per Purchase Share for each Regular Purchase (the "Purchase Price") equal to the lesser of:

- the lowest sale price of the Common Stock on the Nasdaq Capital Market on the purchase date of such shares; and

- the average of the three lowest closing sale prices for the Common Stock on the Nasdaq Capital Market during the ten consecutive business days ending on the business day immediately preceding the purchase date of such shares.

In addition, on any date on which the Company submits a Regular Purchase Notice for the maximum amount allowed for such a Regular Purchase to Lincoln Park, it also has the right, in its sole discretion, to present Lincoln Park with an accelerated purchase notice (an "Accelerated Purchase Notice"), directing Lincoln Park to purchase an amount of Purchase Shares (an "Accelerated Purchase"), which number of Purchase Shares will not exceed the lesser of (i) 300% of the number of shares purchased pursuant to such Regular Purchase and (ii) 30% of the total number of shares of the Common Stock traded on Nasdaq during all or a specified period on the applicable Accelerated Purchase date as set forth in the Purchase Agreement. The purchase price per Purchase Share for each such Accelerated Purchase will be equal to 97% of the lesser of:

- the volume-weighted average price of the Common Stock on the Nasdaq Capital Market during the applicable measurement period on the applicable Accelerated Purchase date; and

- the closing sale price of the Common Stock on the Nasdaq Capital Market on the applicable Accelerated Purchase date.

The Company may also direct Lincoln Park, on any business day on which an Accelerated Purchase has been completed and all of the shares to be purchased thereunder have been properly delivered to Lincoln Park in accordance with the Purchase Agreement, to make purchases of an additional amount of our Common Stock upon the same terms as an Accelerated Purchase, (an "Additional Accelerated Purchase").

The purchase price of Regular Purchases, Accelerated Purchases and Additional Accelerated Purchases and the minimum closing sale price for a Regular Purchase will be adjusted for any reorganization, recapitalization, non-cash dividend, stock split, reverse stock split or other similar transaction occurring during the business days used to compute the purchase price. The aggregate number of shares that the Company can sell to Lincoln Park under the Purchase Agreement may in no case exceed 12,486,666 shares (subject to adjustment as described above) of the Common Stock (which is equal to approximately 19.99% of the shares of the Common Stock outstanding immediately prior to the execution of the Purchase Agreement) (the "Exchange Cap"), unless (i) stockholder approval is obtained to issue Purchase Shares above the Exchange Cap, in which case the Exchange Cap will no longer apply, or (ii) the average

price of all applicable sales of our Common Stock to Lincoln Park under the Purchase Agreement equals or exceeds the lower of (A) the official closing price of our Common Stock on Nasdaq on the trading day immediately preceding the date of the Purchase Agreement and (B) the average official closing price of our Common Stock on Nasdaq for the five consecutive trading days ending on the trading day immediately preceding the date of the Purchase Agreement, adjusted such that the transactions contemplated by the Purchase Agreement are exempt from the Exchange Cap limitation under applicable Nasdaq rules); provided that at no time may Lincoln Park (together with its affiliates) beneficially own more than 9.99% of the Company's issued and outstanding Common Stock. The Company issued 760,194 shares of Common Stock to Lincoln Park as a commitment fee in connection with entering into the Purchase Agreement and may issue an additional 304,077 shares pro-rata when and if Lincoln Park purchases (at the Company's discretion) the $22,000,000 aggregate commitment (the "Commitment Shares" and together with the Purchase Shares, the "Shares").

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The Purchase Agreement contains customary representations, warranties, covenants, closing conditions and indemnification and termination provisions. Sales under the Purchase Agreement may commence only after certain conditions have been satisfied (the date on which all requisite conditions have been satisfied, the "Commencement Date"), which conditions include the delivery to Lincoln Park of a prospectus supplement covering the shares of Common Stock issued or sold by the Company to Lincoln Park under the Purchase Agreement, the filing with The Nasdaq Stock Market of a Listing of Additional Shares notification with respect to the Shares and Nasdaq having raised no objection to the consummation of transactions contemplated under the Purchase Agreement, and the receipt by Lincoln Park of a customary opinion of counsel and other certificates and closing documents. We anticipate that such conditions will be satisfied on or around November 12, 2020.

The Purchase Agreement may be terminated by the Company at any time, at its sole discretion, without any cost or penalty, by giving one business day notice to Lincoln Park to terminate the Purchase Agreement. Lincoln Park has covenanted not to cause or engage in any manner whatsoever, any direct or indirect short selling or hedging of the Common Stock. Although the Company has agreed to reimburse Lincoln Park for a limited portion of the fees it incurred in connection with the Purchase Agreement, the Company did not pay any additional amounts to reimburse or otherwise compensate Lincoln Park in connection with the transaction, other than the issuance of the Commitment Shares.

There are no limitations on use of proceeds, financial or business covenants, restrictions on future financings (other than restrictions on the Company's ability to enter into variable rate transactions described in the Purchase Agreement), rights of first refusal, participation rights, penalties or liquidated damages in the Purchase Agreement. The Company may deliver Purchase Notices under the Purchase Agreement, subject to market conditions, and in light of its capital needs from time to time and under the limitations contained in the Purchase Agreement. Any proceeds that the Company receives under the Purchase Agreement are expected to be used for working capital and general corporate purposes.

On November 11, 2020, the Company terminated its purchase agreement dated October 4, 2018 with Lincoln Park.

ITEM 6. EXHIBITS

Exhibit No.	Description
10.1	At Market Issuance Sales Agreement, dated July 17, 2020, by and among the Company and Oppenheimer & Co. Inc. (incorporated by reference to exhibit 1.1 of the Company's Form 8-K filed July 17, 2020)
10.2	Purchase Agreement (LPC-Moleculin Biotech, Inc.)
10.3	Registration Rights Agreement (LPC-Moleculin Biotech, Inc.)
31.1*	Certification of Principal Executive Officer Pursuant to Section 302 of Sarbanes-Oxley Act of 2002
31.2*	Certification of Principal Financial Officer Pursuant to Section 302 of Sarbanes-Oxley Act of 2002
32.1*	Certification of Principal Executive Officer Pursuant to Section 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
32.2*	Certification of Principal Accounting and Financial Officer Pursuant to Section 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002

101.INS*	Inline XBRL Instance Document (the Instance Document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document)
101.SCH*	Inline XBRL Taxonomy Extension Schema Document
101.CAL*	Inline XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF*	Inline XBRL Taxonomy Extension Definition Linkbase Document
101.LAB*	Inline XBRL Taxonomy Extension Label Linkbase Document
101.PRE*	Inline XBRL Taxonomy Extension Presentation Linkbase Document
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)

* Filed herewith.

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SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

MOLECULIN BIOTECH, INC.

Date: November 12, 2020

By: /s/ Walter V. Klemp
Walter V. Klemp,
Chief Executive Officer and Chairman
(Principal Executive Officer)

Date: November12, 2020

By: /s/ Jonathan P. Foster
Jonathan P. Foster,
Executive Vice President & Chief Financial Officer
(Principal Financial and Accounting Officer)

Exhibit 10.2

EXECUTION VERSION

PURCHASE AGREEMENT

PURCHASE AGREEMENT (the "Agreement"), dated as of November 11, 2020, by and between **MOLECULIN BIOTECH, INC.**, a Delaware corporation, (the "Company"), **LINCOLN PARK CAPITAL FUND, LLC**, an Illinois limited liability company (the "Investor").

WHEREAS:

Subject to the terms and conditions set forth in this Agreement, the Company wishes to sell to the Investor, and the Investor wishes to buy from the Company, up to Twenty-Two Million Dollars ($22,000,000) of the Company's common stock, $0.001 par value per share (the "Common Stock"). The shares of Common Stock to be purchased hereunder (including, without limitation, the Initial Purchase Shares (as defined herein)) are referred to herein as the "Purchase Shares."

NOW THEREFORE, in consideration of the mutual covenants contained in this Agreement, and for other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, the Company and the Investor hereby agree as follows:

1. CERTAIN DEFINITIONS.

For purposes of this Agreement, the following terms shall have the following meanings:

(a) "Accelerated Purchase Date" means, with respect to an Accelerated Purchase made pursuant to Section 2(b) hereof, the Business Day immediately following the applicable Regular Purchase Date with respect to the corresponding Regular Purchase referred to in clause (i) of the second sentence of Section 2(b) hereof.

(b) "Accelerated Purchase Minimum Price Threshold" means, with respect to an Accelerated Purchase made pursuant to Section 2(b) hereof, the minimum per share price threshold set forth by the Company (if any) in the applicable Accelerated Purchase Notice.

(c) "Accelerated Purchase Notice" means, with respect to an Accelerated Purchase made pursuant to Section 2(b) hereof, an irrevocable written notice from the Company to the Investor directing the Investor to purchase the number of Purchase Shares specified by the Company therein as the Accelerated Purchase Share Amount to be purchased by the Investor (such specified Accelerated Purchase Share Amount subject to adjustment in accordance with Section 2(b) hereof as necessary to give effect to the Purchase Share amount limitations applicable to such Accelerated Purchase Share Amount as set forth in this Agreement) at the applicable Accelerated Purchase Price on the applicable Accelerated Purchase Date for such Accelerated Purchase.

(d) "Accelerated Purchase Price" means, with respect to an Accelerated Purchase made pursuant to Section 2(b) hereof, ninety-seven percent (97%) of the lower of (i) the VWAP for the period beginning at 9:30:01 a.m., Eastern time, on the applicable Accelerated Purchase Date, or such other time publicly announced by the Principal Market as the official open (or commencement) of trading on the Principal Market on such applicable Accelerated Purchase Date (the "Accelerated Purchase Commencement Time"), and ending at the earliest of (A) 4:00:00 p.m., Eastern time, on such applicable Accelerated Purchase Date, or such other time publicly announced by the Principal Market as the official close of trading on the Principal Market on such applicable Accelerated Purchase Date, (B) such time, from and after the Accelerated Purchase Commencement Time for such Accelerated Purchase, that the total number (or volume) of shares of Common Stock traded on the Principal Market has exceeded the applicable Accelerated Purchase Share Volume Maximum, and (C) such time, from and after the Accelerated Purchase Commencement Time for such Accelerated Purchase, that the Sale Price has fallen below the applicable Accelerated Purchase Minimum Price Threshold (if any) (such earliest of (i)(A), (i)(B) and (i)(C) above, the "Accelerated Purchase Termination Time"), and (ii) the Closing Sale Price of the Common Stock on such applicable Accelerated Purchase Date (to be appropriately adjusted for any reorganization, recapitalization, non-cash dividend, stock split, reverse stock split or other similar transaction).

(e) "Accelerated Purchase Share Amount" means, with respect to an Accelerated Purchase made pursuant to Section 2(b) hereof, the number of Purchase Shares directed by the Company to be purchased by the Investor in an applicable Accelerated Purchase Notice, which number of Purchase Shares shall not exceed the lesser of (i) 300% of the number of Purchase Shares directed by the Company to be purchased by the Investor pursuant to the corresponding Regular Purchase Notice for the corresponding Regular Purchase referred to in clause (i)(A) of the second sentence of Section 2(b) hereof (such corresponding Regular Purchase being subject to the applicable Regular Purchase Share Limit) and (ii) an amount equal to (A) the Accelerated Purchase Share Percentage multiplied by (B) the total number (or volume) of shares of Common Stock traded on the Principal Market during the period on the applicable Accelerated Purchase Date beginning at the Accelerated Purchase Commencement Time for such Accelerated Purchase and ending at the Accelerated Purchase Termination Time for such Accelerated Purchase; provided, however, that that the parties may mutually agree to increase the Accelerated Purchase Share Amount applicable to any Accelerated Purchase.

(f) "Accelerated Purchase Share Percentage" means, with respect to an Accelerated Purchase made pursuant to Section 2(b) hereof, thirty percent (30%).

(g) "Accelerated Purchase Share Volume Maximum" means, with respect to an Accelerated Purchase made pursuant to Section 2(b) hereof, a number of shares of Common Stock equal to (i) the number of Purchase Shares specified by the Company in the applicable Accelerated Purchase Notice as the Accelerated Purchase Share Amount to be purchased by the Investor in such Accelerated Purchase, divided by (ii) the Accelerated Purchase Share Percentage (to be appropriately adjusted for any applicable reorganization, recapitalization, non-cash dividend, stock split, reverse stock split or other similar transaction).

(h) "Additional Accelerated Purchase Date" means, with respect to an Additional Accelerated Purchase made pursuant to Section 2(c) hereof, the Business Day (i) that is the Accelerated Purchase Date with respect to the corresponding Accelerated Purchase referred to in clause (i) of the proviso in the second sentence of Section 2(c) hereof and (ii) on which the Investor receives, prior to 1:00 p.m., Eastern time, on such Business Day, a valid Additional Accelerated Purchase Notice for such Additional Accelerated Purchase in accordance with this Agreement.

(i) "Additional Accelerated Purchase Minimum Price Threshold" means, with respect to an Additional Accelerated Purchase made pursuant to Section 2(c) hereof, the minimum per share price threshold (if any) set forth by the Company in the applicable Additional Accelerated Purchase Notice.

(j) "Additional Accelerated Purchase Notice" means, with respect to an Additional Accelerated Purchase made pursuant to Section 2(c) hereof, an irrevocable written notice from the Company to the Investor directing the Investor to purchase the number of Purchase Shares specified by the Company therein as the Additional Accelerated Purchase Share Amount to be purchased by the Investor (such specified Additional Accelerated Purchase Share Amount subject to adjustment in accordance with Section 2(c) hereof as necessary to give effect to the Purchase Share amount limitations applicable to such Additional Accelerated Purchase Share Amount as set forth in this Agreement) at the applicable Additional Accelerated Purchase Price on the applicable Additional Accelerated Purchase Date for such Additional Accelerated Purchase.

(k) "Additional Accelerated Purchase Price" means, with respect to an Additional Accelerated Purchase made pursuant to Section 2(c) hereof, ninety-seven percent (97%) of the lower of (i) the VWAP for the period on the applicable Additional Accelerated Purchase Date, beginning at the latest of (A) the applicable Accelerated Purchase Termination Time with respect to the corresponding Accelerated Purchase referred to in clause (i) of the proviso in the second sentence of Section 2(c) hereof on such Additional Accelerated Purchase Date, (B) the applicable Additional Accelerated Purchase Termination Time with respect to the most recently completed prior Additional Accelerated Purchase on such Additional Accelerated Purchase Date, as applicable, and (C) the time at which all Purchase Shares subject to all prior Accelerated Purchases and Additional Accelerated Purchases (as applicable), including, without limitation, those that have been effected on the same Business Day as the applicable Additional Accelerated Purchase Date with respect to which the applicable Additional Accelerated Purchase relates, have theretofore been received by the Investor as DWAC Shares in accordance with this Agreement (such latest of (i)(A), (i)(B) and (i)(C) above, the "Additional Accelerated Purchase Commencement Time"), and ending at the earliest of (X) 4:00 p.m., Eastern time, on such Additional Accelerated Purchase Date, or such other time publicly announced by the Principal Market as the official close of trading on the Principal Market on such Additional Accelerated Purchase Date, (Y) such time, from and after the Additional Accelerated Purchase Commencement Time for such Additional Accelerated Purchase, that total number (or volume) of shares of Common Stock traded on the Principal Market has exceeded the applicable Additional Accelerated Purchase Share Volume Maximum, and (Z) such time, from and after the Additional Accelerated Purchase Commencement Time for such Additional Accelerated Purchase, that the Sale Price has fallen below the applicable Additional Accelerated Purchase Minimum Price Threshold (if any) (such earliest of (i)(X), (i)(Y) and (i)(Z) above, the "Additional Accelerated Purchase Termination Time"), and (ii) the Closing Sale Price of the Common Stock on such Additional Accelerated Purchase Date (to be appropriately adjusted for any reorganization, recapitalization, non-cash dividend, stock split, reverse stock split or other similar transaction).

(l) "Additional Accelerated Purchase Share Amount" means, with respect to an Additional Accelerated Purchase made pursuant to Section 2(c) hereof, the number of Purchase Shares directed by the Company to be purchased by the Investor on an Additional Accelerated Purchase Notice, which number of Purchase Shares shall not exceed the lesser of (i) 300% of the number of Purchase Shares directed by the Company to be purchased by the Investor pursuant to the corresponding Regular Purchase Notice for the corresponding Regular Purchase referred to in clause (i)(A) of the second sentence of Section 2(b) hereof (such corresponding Regular Purchase being subject to the applicable Regular Purchase Share Limit) and (ii) an amount equal to (A) the Additional Accelerated Purchase Share Percentage multiplied by (B) the total number (or volume) of shares of Common Stock traded on the Principal Market during the period on the applicable Additional Accelerated Purchase Date beginning at the Additional Accelerated Purchase Commencement Time for such Additional Accelerated Purchase and ending at the Additional Accelerated Purchase Termination Time for such Additional Accelerated Purchase; provided, however, that that the parties may mutually agree to increase the Additional Accelerated Purchase Share Amount applicable to any Additional Accelerated Purchase.

(m) "Additional Accelerated Purchase Share Percentage" means, with respect to an Additional Accelerated Purchase made pursuant to Section 2(c) hereof, thirty percent (30%).

(n) "Additional Accelerated Purchase Share Volume Maximum" means, with respect to an Additional Accelerated Purchase made pursuant to Section 2(c) hereof, a number of shares of Common Stock equal to (i) the number of Purchase Shares specified by the Company in the applicable Additional Accelerated Purchase Notice as the Additional Accelerated Purchase Share Amount to be purchased by the Investor in such Additional Accelerated Purchase, divided by (ii) the Additional Accelerated Purchase Share Percentage (to be appropriately adjusted for any reorganization, recapitalization, non-cash dividend, stock split, reverse stock split or other similar transaction).

(o) "Alternate Adjusted Regular Purchase Share Limit" means, with respect to a Regular Purchase made pursuant to Section 2(a) hereof, the maximum number of Purchase Shares which, taking into account the applicable per share Regular Purchase Price therefor calculated in accordance with this Agreement, would enable the Company to deliver to the Investor, on the applicable Regular Purchase Date for such Regular Purchase, a Regular Purchase Notice for a Purchase Amount equal to, or as closely approximating without exceeding, Two Hundred Fifty Thousand Dollars ($250,000).

(p) "Available Amount" means, initially, Twenty-Two Million Dollars ($22,000,000) in the aggregate, which amount shall be reduced by the Purchase Amount each time the Investor purchases Purchase Shares pursuant to Section 2 hereof.

(q) "Average Price" means a price per Purchase Share (rounded to the nearest tenth of a cent) equal to the quotient obtained by dividing (i) the aggregate gross purchase price paid by the Investor for all Purchase Shares purchased pursuant to this Agreement, by (ii) the aggregate number of Purchase Shares issued pursuant to this Agreement.

(r) "Bankruptcy Law" means Title 11, U.S. Code, or any similar federal or state law for the relief of debtors.

(s) "Base Price" means a price per Purchase Share equal to the sum of (i) the Signing Market Price and (ii) $0.0661 (subject to adjustment for any reorganization, recapitalization, non-cash dividend, stock split, reverse stock split or other similar transaction that occurs on or after the date of this Agreement).

(t) "Base Prospectus" shall have the meaning ascribed to such term in the Registration Rights Agreement.

(u) "Business Day" means any day on which the Principal Market is open for trading, including any day on which the Principal Market is open for trading for a period of time less than the customary time.

(v) "Closing Sale Price" means, for any security as of any date, the last closing sale price for such security on the Principal Market as reported by the Principal Market.

(w) "Confidential Information" means any information disclosed by either party to the other party, either directly or indirectly, in writing, orally or by inspection of tangible objects (including, without limitation, documents, prototypes, samples, plant and equipment), which is designated as "Confidential," "Proprietary" or some similar designation. Information communicated orally shall be considered Confidential Information if such information is confirmed in writing as being Confidential Information within ten (10) Business Days after the initial disclosure. Confidential Information may also include information disclosed to a disclosing party by third parties. Confidential Information shall not, however, include any information which (i) was publicly known and made generally available in the public domain prior to the time of disclosure by the disclosing party; (ii) becomes publicly known and made generally available after disclosure by the disclosing party to the receiving party through no action or inaction of the receiving party; (iii) is already in the possession of the receiving party without confidential restriction at the time of disclosure by the disclosing party as shown by the receiving party's files and records immediately prior to the time of disclosure; (iv) is obtained by the receiving party from a third party without a breach of such third party's obligations of confidentiality; (v) is independently developed by the receiving party without use of or reference to the disclosing party's Confidential Information, as shown by documents and other competent evidence in the receiving party's possession; or (vi) is required by law to be disclosed by the receiving party, provided that the receiving party gives the disclosing party prompt written notice of such requirement prior to such disclosure and assistance in obtaining an order protecting the information from public disclosure.

(x) "Custodian" means any receiver, trustee, assignee, liquidator or similar official under any Bankruptcy Law.

(y) "DTC" means The Depository Trust Company, or any successor performing substantially the same function for the Company.

(z) "DWAC Shares" means shares of Common Stock that are (i) issued in electronic form, (ii) freely tradable and transferable and without restriction on resale and (iii) timely credited by the Company to the Investor's or its designee's specified Deposit/Withdrawal at Custodian (DWAC) account with DTC under its Fast Automated Securities Transfer (FAST) Program, or any similar program hereafter adopted by DTC performing substantially the same function.

(aa) "Exchange Act" means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

(bb) "Fully Adjusted Regular Purchase Share Limit" means, with respect to any reorganization, recapitalization, non-cash dividend, stock split or other similar transaction from and after the date of this Agreement, the Regular Purchase Share Limit (as defined in Section 2(a) hereof) in effect on the applicable date of determination, after giving effect to the full proportionate adjustment thereto made pursuant to Section 2(a) hereof for or in respect of such reorganization, recapitalization, non-cash dividend, stock split or other similar transaction.

(cc) "Initial Prospectus Supplement" shall have the meaning ascribed to such term in the Registration Rights Agreement.

(dd) "Initial Purchase Price" means, with respect to the Initial Purchase made pursuant to Section 2(d) hereof, the lower of: (i) the lowest Sale Price on the Business Day immediately preceding the Commencement Date and (ii) the arithmetic average of the Closing Sale Prices for the Common Stock during the ten (10) consecutive Business Days ending on the Business Day immediately preceding the Commencement Date (in each case, to be appropriately adjusted for any reorganization, recapitalization, non-cash dividend, stock split or other similar transaction that occurs on or after the date of this Agreement).

(ee) "Initial Purchase Shares" means, with respect to the Initial Purchase made pursuant to Section 2(d) hereof, 2,829,214 Purchase Shares, representing the number of Purchase Shares equal to the quotient obtained by dividing (i) $2,000,000 by (ii) the Initial Purchase Price (to be appropriately adjusted for any reorganization, recapitalization, non-cash dividend, stock split or other similar transaction that occurs on or after the date of this Agreement).

(ff) "Material Adverse Effect" means any material adverse effect on (i) the enforceability of any Transaction Document, (ii) the results of operations, assets, business or financial condition of the Company and its Subsidiaries, taken as a whole, other than any material adverse effect that resulted exclusively from (A) any change in the United States or foreign economies or securities or financial markets in general that does not have a disproportionate effect on the Company and its Subsidiaries, taken as a whole, (B) any change that generally affects the industry in which the Company and its Subsidiaries operate that does not have a disproportionate effect on the Company and its Subsidiaries, taken as a whole, (C) any change arising in connection with earthquakes, hostilities, acts of war, sabotage or terrorism or military actions or any escalation or material worsening of any such hostilities, acts of war, sabotage or terrorism or military actions existing as of the date hereof, (D) any action taken by the Investor, its affiliates or its or their successors and assigns with respect to the transactions contemplated by this Agreement, (E) the effect of any change in applicable laws or accounting rules that does not have a disproportionate effect on the Company and its Subsidiaries, taken as a whole, or (F) any change resulting from compliance with terms of this Agreement or the consummation of the transactions contemplated by this Agreement, or (iii) the Company's ability to perform in any material respect on a timely basis its obligations under any Transaction Document to be performed as of the date of determination.

(gg) "Maturity Date" means the first day of the month immediately following the thirty-six (36) month anniversary of the Commencement Date.

(hh) "Person" means an individual or entity including but not limited to any limited liability company, a partnership, a joint venture, a corporation, a trust, an unincorporated organization and a government or any department or agency thereof.

(ii) "Principal Market" means The NASDAQ Capital Market (or any nationally recognized successor thereto); provided however, that in the event the Company's Common Stock is ever listed or traded on The NASDAQ Global Market, The NASDAQ Global Select Market, the New York Stock Exchange, the NYSE American, the NYSE Arca or the OTC Bulletin Board (it being understood that as used herein "OTC Bulletin Board" shall also mean any successor or comparable market quotation system or exchange to the OTC Bulletin Board such as the OTCQX and OTCQB operated by the OTC Markets Group, Inc.), then the "Principal Market" shall mean such other market or exchange on which the Company's Common Stock is then listed or traded or any successor thereto.

(jj) "Prospectus" shall have the meaning ascribed to such term in the Registration Rights Agreement.

(kk) "Prospectus Supplement" shall have the meaning ascribed to such term in the Registration Rights Agreement.

(ll) "Purchase Amount" means, with respect to the Initial Purchase, a Regular Purchase, an Accelerated Purchase or an Additional Accelerated Purchase made hereunder, as applicable, the portion of the Available Amount to be purchased by the Investor pursuant to Section 2 hereof.

(mm) "Registration Statement" shall have the meaning ascribed to such term in the Registration Rights Agreement.

(nn) "Regular Purchase Date" means, with respect to a Regular Purchase made pursuant to Section 2(a) hereof, the Business Day on which the Investor receives, after 4:00 p.m., Eastern time, but prior to 5:00 p.m., Eastern time, on such Business Day, a valid Regular Purchase Notice for such Regular Purchase in accordance with this Agreement.

(oo) "Regular Purchase Notice" means, with respect to a Regular Purchase pursuant to Section 2(a) hereof, an irrevocable written notice from the Company to the Investor directing the Investor to buy a specified number of Purchase Shares (subject to the Purchase Share limitations contained in Section 2(a) hereof) at the applicable Regular Purchase Price for such Regular Purchase in accordance with this Agreement.

(pp) "Regular Purchase Price" means, with respect to a Regular Purchase made pursuant to Section 2(a) hereof, the lower of: (i) the lowest Sale Price on the applicable Regular Purchase Date for such Regular Purchase and (ii) the arithmetic average of the three (3) lowest Closing Sale Prices for the Common Stock during the ten (10) consecutive Business Days ending on the Business Day immediately preceding such Regular Purchase Date for such Regular Purchase (in each case, to be appropriately adjusted for any reorganization, recapitalization, non-cash dividend, stock split or other similar transaction that occurs on or after the date of this Agreement).

(qq) "Regular Purchase Share Limit" means, with respect to a Regular Purchase pursuant to Section 2(a) hereof, Five Hundred Thousand (500,000) Purchase Shares, subject to adjustment as set forth below; provided, however, that (i) the Regular Purchase Share Limit shall be increased to Seven Hundred Fifty Thousand (750,000) Purchase Shares, if the Closing Sale Price of the Common Stock on the applicable Regular Purchase Date is not below $1.00, and (ii) the Regular Purchase Share Limit shall be increased to One Million (1,000,000) Purchase Shares, if the Closing Sale Price of the Common Stock on the applicable Regular Purchase Date is not below $1.50 (all of which share and dollar amounts shall be appropriately proportionately adjusted for any reorganization, recapitalization, non-cash dividend, stock split or other similar transaction; provided that if, after giving effect to the full proportionate adjustment to the Regular Purchase Share Limit therefor, the Fully Adjusted Regular Purchase Share Limit then in effect would preclude the Company from delivering to the Investor, on a Regular Purchase Date for a Regular Purchase hereunder, a Regular Purchase Notice for a Purchase Amount equal to or greater than Two Hundred Fifty Thousand Dollars ($250,000) (which shall be determined by multiplying (X) the Fully Adjusted Regular Purchase Share Limit then in effect on such Regular Purchase Date, by (Y) the applicable Regular Purchase Price per Purchase Share for such Regular Purchase calculated in accordance with this Agreement), the Regular Purchase Share Limit shall equal the applicable Alternate Adjusted Regular Purchase Share Limit); provided, further, however, that the Investor's committed obligation under any single Regular Purchase, other than any Regular Purchase with respect to which an Alternate Adjusted Regular Purchase Share Limit shall apply, shall not exceed Two Million Five Hundred Thousand Dollars ($2,500,000); provided that the parties may mutually agree to increase the Regular Purchase Share Limit applicable to any Regular Purchase on any Purchase Date above the forgoing amounts that the Investor is committed to purchase.

(rr) "Sale Price" means any trade price for the shares of Common Stock on the Principal Market as reported by the Principal Market.

(ss) "SEC" means the U.S. Securities and Exchange Commission.

(tt) "Securities" means, collectively, the Purchase Shares and the Commitment Shares.

(uu) "Securities Act" means the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder.

(vv) "Signing Market Price" means $0.71, representing the average official closing price of the Common Stock on The Nasdaq Capital Market (as reflected on Nasdaq.com) for the five (5) consecutive trading days ending on the date of this Agreement.

(ww) "Subsidiary" means any Person the Company wholly-owns or controls, or in which the Company, directly or indirectly, owns a majority of the voting stock or similar voting interest, in each case that would be disclosable pursuant to Item 601(b)(21) of Regulation S-K promulgated under the Securities Act.

(xx) "Transaction Documents" means, collectively, this Agreement and the schedules and exhibits hereto, the Registration Rights Agreement and the schedules and exhibits thereto, and each of the other agreements, documents, certificates and instruments entered into or furnished by the parties hereto in connection with the transactions contemplated hereby and thereby.

(yy) "Transfer Agent" means vStock Transfer, LLC, or such other Person who is then serving as the transfer agent for the Company in respect of the Common Stock.

(zz) "VWAP" means in respect of an Accelerated Purchase Date and an Additional Accelerated Purchase Date, as applicable, the volume weighted average price of the Common Stock on the Principal Market, as reported on the Principal Market.

2. PURCHASE OF COMMON STOCK.

Subject to the terms and conditions set forth in this Agreement, the Company has the right to sell to the Investor, and the Investor has the obligation to purchase from the Company, Purchase Shares as follows:

(a) Commencement of Regular Sales of Common Stock. Upon the satisfaction of all of the conditions set forth in Sections 7 and 8 hereof (the "Commencement" and the date of satisfaction of such conditions the "Commencement Date"), and thereafter, the Company shall have the right, but not the obligation, to direct the Investor, by its delivery to the Investor of a Regular Purchase Notice from time to time in accordance with this Agreement, to purchase up to the Regular Purchase Share Limit at the applicable Regular Purchase Price on the applicable Regular Purchase Date (each such purchase a "Regular Purchase"). The Company may deliver a Regular Purchase Notice to the Investor as often as every Business Day, so long as all Purchase Shares subject to all prior Regular Purchases have theretofore been received by the Investor as DWAC Shares in accordance with this Agreement.

(b) Accelerated Purchases. Subject to the terms and conditions of this Agreement, from and after the Commencement Date, in addition to purchases of Purchase Shares as described in Section 2(a) above, the Company shall also have the right, but not the obligation, to direct the Investor, by its delivery to the Investor of an Accelerated Purchase Notice from time to time in accordance with this Agreement, to purchase the applicable Accelerated Purchase Share Amount at the Accelerated Purchase Price on the Accelerated Purchase Date therefor in accordance with this Agreement (each such purchase, an "Accelerated Purchase"). The Company may deliver an Accelerated Purchase Notice to the Investor only (i) on a Regular Purchase Date on which the Company also properly submitted a Regular Purchase Notice for a Regular Purchase of not less than the Regular Purchase Share Limit then in effect, and (ii) if all Purchase Shares subject to all Regular Purchases, Accelerated Purchases and Additional Accelerated Purchases prior to the Regular Purchase Date referred to in clause (i) hereof (as applicable) have theretofore been received by the Investor as DWAC Shares in accordance with this Agreement. Within one (1) Business Day after completion of each Accelerated Purchase Date for an Accelerated Purchase, the Investor will provide to the Company a written confirmation of such Accelerated Purchase setting forth the applicable Accelerated Purchase Share Amount and Accelerated Purchase Price for such Accelerated Purchase (each, an "Accelerated Purchase Confirmation").

(c) Additional Accelerated Purchases. Subject to the terms and conditions of this Agreement, from and after the Commencement Date, in addition to purchases of Purchase Shares as described in Section 2(a) and Section 2(b) above, the Company shall also have the right, but not the obligation, to direct the Investor, by its timely delivery to the Investor of an Additional Accelerated Purchase Notice on an Additional Accelerated Purchase Date in accordance with this Agreement, to purchase the applicable Additional Accelerated Purchase Share Amount at the applicable Additional Accelerated Purchase Price therefor in accordance with this Agreement (each such purchase, an "Additional Accelerated Purchase"). The Company may deliver multiple Additional Accelerated Purchase Notices to the Investor on an Additional Accelerated Purchase Date only (i) on a Business Day that is also the Accelerated Purchase Date for an Accelerated Purchase with respect to which each of the conditions set forth in the second sentence of Section 2(b) have been satisfied, and (ii) if all Purchase Shares subject to all prior Regular Purchases, Accelerated Purchases and Additional Accelerated Purchases, including, without limitation, those that have been effected on the same Business Day as the applicable Additional Accelerated Purchase Date with respect to which the applicable Additional Accelerated Purchase relates, have theretofore been received by the Investor as DWAC Shares in accordance with this Agreement. The Investor will provide to the Company a written confirmation of each Additional Accelerated Purchase on such Additional Accelerated Purchase Date setting forth the applicable Additional Accelerated Purchase Share Amount and Additional Accelerated Purchase Price for each such Additional Accelerated Purchase on such Additional Accelerated Purchase Date in the Accelerated Purchase Confirmation for the related Accelerated Purchase as provided in the last sentence of Section 2(b).

(d) Initial Purchase. Subject to the terms and conditions of this Agreement, on the Commencement Date, in addition to purchases of Purchase Shares as described in Section 2(a), Section 2(b) and Section 2(c) above, the Company shall issue and sell to the Investor and the Investor shall purchase from the Company the Initial Purchase Shares at the Initial Purchase Price per Purchase Share, for aggregate consideration of Two Million Dollars ($2,000,000) (such one-time purchase, the "Initial Purchase").

(e) Excess Share Limitations. If the Company delivers any Regular Purchase Notice for a Purchase Amount in excess of the Regular Purchase Share Limit, such Regular Purchase Notice shall be void *ab initio* to the extent of the amount by which the number of Purchase Shares set forth in such Regular Purchase Notice exceeds the number of Purchase Shares which the Company is permitted to include in such Regular Purchase Notice in accordance herewith, and the Investor shall have no obligation to purchase such excess Purchase Shares in respect of such Regular Purchase Notice; provided, however, that the Investor shall remain obligated to purchase the number of Purchase Shares which the Company is permitted to include in such Regular Purchase Notice. If the Company delivers any Accelerated Purchase Notice or Additional Accelerated Purchase Notice directing the Investor to purchase an amount of Purchase Shares that exceeds the Accelerated Purchase Share Amount or Additional Accelerated Purchase Amount, as applicable, that the Company is then permitted to include in such Accelerated Purchase Notice or Additional Accelerated Purchase Notice, respectively, such Accelerated Purchase Notice or Additional Accelerated Purchase Notice, as applicable, shall be void *ab initio* to the extent of the amount by which the number of Purchase Shares set forth in such Accelerated Purchase Notice or Additional Accelerated Purchase Notice, as applicable, exceeds the Accelerated Purchase Share Amount or Additional Accelerated Purchase Amount, respectively, that the Company is then permitted to include in such Accelerated Purchase Notice or Additional Accelerated Purchase Notice, respectively (which shall be confirmed in an Accelerated Purchase Confirmation), and the Investor shall have no obligation to purchase such excess Purchase Shares; provided, however, that the Investor shall remain obligated to purchase the Accelerated Purchase Share Amount or Additional Accelerated Purchase Amount, as applicable, which the Company is permitted to include in such Accelerated Purchase Notice or Additional Accelerated Purchase Notice, respectively.

(f) Payment for Purchase Shares. For the Initial Purchase and for each Regular Purchase, the Investor shall pay to the Company an amount equal to the Purchase Amount with respect to such Regular Purchase as full payment for such Purchase Shares via wire transfer of immediately available funds on the same Business Day that the Investor receives such Purchase Shares, if such Purchase Shares are received by the Investor before 1:00 p.m., Eastern time, or, if such Purchase Shares are received by the Investor after 1:00 p.m., Eastern time, the next Business Day. For each Accelerated Purchase and each Additional Accelerated Purchase, the Investor shall pay to the Company an amount equal to the Purchase Amount with respect to such Accelerated Purchase and Additional Accelerated Purchase, respectively, as full payment for such Purchase Shares via wire transfer of immediately available funds on the second (2nd) Business Day following the date that the Investor receives such Purchase Shares. If the Company or the Transfer Agent shall fail for any reason or for no reason to electronically transfer any Purchase Shares as DWAC Shares in respect of the Initial Purchase, a Regular Purchase, an Accelerated Purchase or an Additional Accelerated Purchase (as applicable) within two (2) Business Days following the receipt by the Company of the aggregate Initial Purchase Price, Regular Purchase Price, Accelerated Purchase Price or Additional Accelerated Purchase Price (as applicable) therefor in compliance with this Section 2(f), and if on or after such Business Day the Investor purchases (in an open market transaction or otherwise) shares of Common Stock to deliver in satisfaction of a sale by the Investor of such Purchase Shares that the Investor anticipated receiving from the Company in respect of such Initial Purchase, Regular Purchase, Accelerated Purchase or Additional Accelerated Purchase, then the Company shall, within two (2) Business Days after the Investor's request, either (i) pay cash to the Investor in an amount equal to the Investor's total purchase price (including brokerage commissions, if any) for the shares of Common Stock so purchased (the "Cover Price"), at which point the Company's obligation to deliver such Purchase Shares as DWAC Shares shall terminate, or (ii) promptly honor its obligation to deliver to the Investor such Purchase Shares as DWAC Shares and pay cash to the Investor in an amount equal to the excess (if any) of the Cover Price over the total Purchase Amount paid by the Investor pursuant to this Agreement for all of the Purchase Shares to be purchased by the Investor in connection with such Initial Purchase, Regular Purchase, Accelerated Purchase or Additional Accelerated Purchase (as applicable). The Company shall not issue any fraction of a share of Common Stock upon the Initial Purchase, any Regular Purchase, any Accelerated Purchase or any Additional Accelerated Purchase. If the issuance would result in the issuance of a fraction of a share of Common Stock, the Company shall round such fraction of a share of Common Stock up or down to the nearest whole share. All payments made under this Agreement shall be made in lawful money of the United States of America or wire transfer of immediately available funds to such account as the Company may from time to time designate by written notice in accordance with the provisions of this Agreement. Whenever any amount expressed to be due by the terms of this Agreement is due on any day that is not a Business Day, the same shall instead be due on the next succeeding day that is a Business Day.

(g) Compliance with Rules of Principal Market.

(i) Exchange Cap. Subject to Section 2(g)(ii) below, the Company shall not issue or sell any shares of Common Stock pursuant to this Agreement, and the Investor shall not purchase or acquire any shares of Common Stock pursuant to this Agreement, to the extent that after giving effect thereto, the aggregate number of shares of Common Stock that would be issued pursuant to this Agreement and the transactions contemplated hereby would exceed 12,489,666 (representing 19.99% of the shares of Common Stock issued and outstanding immediately prior to the execution of this Agreement), which number of shares shall be (i) reduced, on a share-for-share basis, by the number of shares of Common Stock issued or issuable pursuant to any transaction or series of transactions that may be aggregated with the transactions contemplated by this Agreement under applicable rules of The Nasdaq Stock Market and (ii) appropriately adjusted for any reorganization, recapitalization, non-cash dividend, stock split or other similar transaction that occurs after the date of this Agreement (such maximum number of shares, the "Exchange Cap"), unless and until the Company elects to solicit stockholder approval of the issuance of Common Stock as contemplated by this Agreement, and the stockholders of the Company have in fact approved the issuance of Common Stock as contemplated by this Agreement in accordance with the applicable rules of The Nasdaq Stock Market. For the avoidance of doubt, the Company may, but shall be under no obligation to, request its stockholders to approve the issuance of Common Stock as contemplated by this Agreement; provided, that if stockholder approval is not obtained in accordance with this Section 2(g)(i), the Exchange Cap shall be applicable for all purposes of this Agreement and the transactions contemplated hereby at all times during the term of this Agreement (except as set forth in Section 2(g)(ii) below).

(ii) At-Market Transaction. Notwithstanding Section 2(g)(i) above, the Exchange Cap shall not be applicable for any purposes of this Agreement and the transactions contemplated hereby, solely to the extent that (and only for so long as) the Average Price shall equal or exceed the Base Price (it being hereby acknowledged and agreed that the Exchange Cap shall be applicable for all purposes of this Agreement and the transactions contemplated hereby at all other times during the term of this Agreement, unless the stockholder approval referred to in Section 2(g)(i) is obtained). The parties acknowledge and agree that the Signing Market Price used to determine the Base Price hereunder represents the lower of (i) the official closing price of the Common Stock on The Nasdaq Capital Market (as reflected on Nasdaq.com) on the date of this Agreement and (ii) the average official closing price of the Common Stock on The Nasdaq Capital Market (as reflected on Nasdaq.com) for the five (5) consecutive trading days ending on the date of this Agreement.

(iii) General. The Company shall not issue any shares of Common Stock pursuant to this Agreement if such issuance would reasonably be expected to result in (A) a violation of the Securities Act or (B) a breach of the rules and regulations of The Nasdaq Stock Market. The provisions of this Section 2(g) shall be implemented in a manner otherwise than in strict conformity with the terms hereof only if necessary to ensure compliance with the Securities Act and the rules and regulations of The Nasdaq Stock Market.

(g) Beneficial Ownership Limitation. Notwithstanding anything to the contrary contained in this Agreement, the Company shall not issue or sell, and the Investor shall not purchase or acquire, any shares of Common Stock under this Agreement which, when aggregated with all other shares of Common Stock then beneficially owned by the Investor and its affiliates (as calculated pursuant to Section 13(d) of the Exchange Act and Rule 13d-3 promulgated thereunder), would result in the beneficial ownership by the Investor of more than 9.99% of the then issued and outstanding shares of Common Stock (the "Beneficial Ownership Limitation"). Upon the written or oral request of the Investor, the Company shall promptly (but not later than 24 hours) confirm orally or in writing to the Investor the number of shares of Common Stock then outstanding. The Investor, upon written notice to the Company, may increase or decrease the Beneficial Ownership Limitation provisions of this Section 2(g), provided that the Beneficial Ownership Limitation in no event exceeds 9.99% of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock pursuant to this Agreement and the provisions of this Section 2(g) shall continue to apply. Any increase in the Beneficial Ownership Limitation will not be effective until the 61st day after such written notice is delivered to the Company. The provisions of this paragraph shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this Section 2(g) to correct this paragraph (or any portion hereof) which may be defective or inconsistent with the intended Beneficial Ownership Limitation herein contained or to make changes or supplements necessary or desirable to properly give effect to such limitation. The Investor and the Company shall each cooperate in good faith in the determinations required hereby and the application hereof. The Investor's written certification to the Company of the applicability of the Beneficial Ownership Limitation, and the resulting effect thereof hereunder at any time, shall be conclusive with respect to the applicability thereof and such result absent manifest error.

3. INVESTOR'S REPRESENTATIONS AND WARRANTIES.

The Investor represents and warrants to the Company that as of the date hereof and as of the Commencement Date:

(a) Organization, Authority. Investor is an entity duly organized, validly existing and in good standing under the laws of the jurisdiction of its organization, with the requisite power and authority to enter into and to consummate the transactions contemplated by this Agreement and otherwise to carry out its obligations hereunder and thereunder.

(b) Accredited Investor Status. The Investor is an "accredited investor" as that term is defined in Rule 501(a)(3) of Regulation D promulgated under the Securities Act.

(c) Information. The Investor understands that its investment in the Securities involves a high degree of risk. The Investor (i) is able to bear the economic risk of an investment in the Securities including a total loss thereof, (ii) has such knowledge and experience in financial and business matters that it is capable of evaluating the merits and risks of the proposed investment in the Securities and (iii) has had an opportunity to ask questions of and receive answers from the officers of the Company concerning the financial condition and business of the Company and others matters related to an investment in the Securities. Neither such inquiries nor any other due diligence investigations conducted by the Investor or its representatives shall modify, amend or affect the Investor's right to rely on the Company's representations and warranties contained in Section 4 below. The Investor has sought such accounting, legal and tax advice from its own independent advisors as it has considered necessary to make an informed investment decision with respect to its acquisition of the Securities and is not relying on any accounting, legal, tax or other advice from the Company or its officers, employees, representatives or advisors. The Investor acknowledges and agrees that the Company neither makes nor has made any representations or warranties with respect to the transactions contemplated hereby other than those specifically set forth in Section 4 hereof.

(e) No Governmental Review. The Investor understands that no U.S. federal or state agency or any other government or governmental agency has passed on or made any recommendation or endorsement of the Securities or the fairness or suitability of an investment in the Securities nor have such authorities passed upon or endorsed the merits of the offering of the Securities.

(f) Validity; Enforcement. This Agreement has been duly and validly authorized, executed and delivered on behalf of the Investor and is a valid and binding agreement of the Investor enforceable against the Investor in accordance with its terms, subject as to enforceability to general principles of equity and to applicable bankruptcy, insolvency, reorganization, moratorium, liquidation and other similar laws relating to, or affecting generally, the enforcement of applicable creditors' rights and remedies.

(g) Residency. The Investor is a resident of the State of Illinois.

(h) No Short Selling. The Investor represents and warrants to the Company that at no time prior to the date of this Agreement has any of the Investor, its agents, representatives or affiliates engaged in or effected, in any manner whatsoever, directly or indirectly, any (i) "short sale" (as such term is defined in Rule 200 of Regulation SHO of the Exchange Act) of the Common Stock or (ii) hedging transaction, which establishes a net short position with respect to the Common Stock.

4. REPRESENTATIONS AND WARRANTIES OF THE COMPANY.

The Company represents and warrants to the Investor that as of the date hereof and as of the Commencement Date:

(a) Organization and Qualification. The Company and each of its Subsidiaries is an entity duly incorporated or otherwise organized, validly existing and in good standing under the laws of the jurisdiction of its incorporation or organization, with the requisite corporate power and authority to own and use its properties and assets and to carry on its business as currently conducted. Neither the Company nor any of its Subsidiaries is in violation or default of any of the provisions of its respective certificate or articles of incorporation, bylaws or other organizational or charter documents. Each of the Company and its Subsidiaries is duly qualified to conduct business and is in good standing as a foreign corporation or other entity in each jurisdiction in which the nature of the business conducted or property owned by it makes such qualification necessary, except where the failure to be so qualified or in good standing, as the case may be, could not have or reasonably be expected to result in a Material Adverse Effect and no proceeding has been instituted in any such jurisdiction revoking, limiting or curtailing or seeking to revoke, limit or curtail such power and authority or qualification. The Company has no Subsidiaries except Moleculin Australia Pty. Ltd., which was formed in June 2018.

(b) Authorization; Enforcement; Validity. (i) The Company has the requisite corporate power and authority to enter into and perform its obligations under this Agreement, the Registration Rights Agreement and each of the other Transaction Documents, and to issue the Securities in accordance with the terms hereof and thereof, (ii) the execution and delivery of the Transaction Documents by the Company and the consummation by it of the transactions contemplated hereby and thereby, including without limitation, the issuance of the Commitment Shares (as defined below in Section 5(e)) and the reservation for issuance and the issuance of the Purchase Shares issuable under this Agreement, have been duly authorized by the Company's Board of Directors and no further consent or authorization is required by the Company, its Board of Directors or its stockholders (except as provided in this Agreement), (iii) each of this Agreement and the Registration Rights Agreement has been, and each other Transaction Document shall be on the Commencement Date, duly executed and delivered by the Company and (iv) each of this Agreement and the Registration Rights Agreement constitutes, and each other Transaction Document upon its execution on behalf of the Company, shall constitute, the valid and binding obligations of the Company enforceable against the Company in accordance with their terms, except as such enforceability may be limited by general principles of equity or applicable bankruptcy, insolvency, reorganization, moratorium, liquidation or similar laws relating to, or affecting generally, the enforcement of creditors' rights and remedies. The Board of Directors of the Company has approved the resolutions (the "Signing Resolutions") substantially in the form as set forth as **Exhibit B** attached hereto to authorize this Agreement, the Registration Rights Agreement and the transactions contemplated hereby. The Signing Resolutions are valid, in full force and effect and have not been modified or supplemented in any respect. The Company has delivered to the Investor a true and correct copy of minutes of a meeting of the Board of Directors of the Company at which the Signing Resolutions were duly adopted by the Board of Directors or a unanimous written consent adopting the Signing Resolutions executed by all of the members of the Board of Directors of the Company. Except as set forth in this Agreement, no other approvals or consents of the Company's Board of Directors, any authorized committee thereof, or stockholders (except as provided in this Agreement) is necessary under applicable laws and the Company's Certificate of Incorporation or Bylaws to authorize the execution and delivery of the Transaction Documents or any of the transactions contemplated thereby, including, but not limited to, the issuance of the Commitment Shares and the issuance of the Purchase Shares.

(c) Capitalization. As of the date hereof, the authorized capital stock of the Company is set forth in the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2020. Except as disclosed in the SEC Documents (as defined below), (i) no shares of the Company's capital stock are subject to preemptive rights or any other similar rights or any liens or encumbrances suffered or permitted by the Company, (ii) there are no outstanding debt securities, (iii) there are no outstanding options, warrants, scrip, rights to subscribe to, calls or commitments of any character whatsoever relating to, or securities or rights convertible into, any shares of capital stock of the Company or any of its Subsidiaries, or contracts, commitments, understandings or arrangements by which the Company or any of its Subsidiaries is or may become bound to issue additional shares of capital stock of the Company or any of its Subsidiaries or options, warrants, scrip, rights to subscribe to, calls or commitments of any character whatsoever relating to, or securities or rights convertible into, any shares of capital stock of the Company or any of its Subsidiaries, (iv) there are no agreements or arrangements under which the Company or any of its Subsidiaries is obligated to register the sale of any of their securities under the Securities Act (except the Registration Rights Agreement), (v) there are no outstanding securities or instruments of the Company or any of its Subsidiaries which contain any redemption or similar provisions, and there are no contracts, commitments, understandings or arrangements by which the Company or any of its Subsidiaries is or may become bound to redeem a security of the Company or any of its Subsidiaries, (vi) there are no securities or instruments containing anti-dilution or similar provisions that will be triggered by the issuance of the Securities as described in this Agreement and (vii) the Company does not have any stock appreciation rights or "phantom stock" plans or agreements or any similar plan or agreement. The Company has furnished to the Investor true and correct copies of the Company's Certificate of Incorporation, as amended and as in effect on the date hereof (the "Certificate of Incorporation"), and the Company's Bylaws, as amended and as in effect on the date hereof (the "Bylaws"), and summaries of the material terms of all securities convertible into or exercisable for Common Stock, if any, and copies of any documents containing the material rights of the holders thereof in respect thereto that are not disclosed in the SEC Documents.

(d) Issuance of Securities. Upon issuance and payment therefor in accordance with the terms and conditions of this Agreement, the Purchase Shares shall be validly issued, fully paid and nonassessable and free from all taxes, liens, charges, restrictions, rights of first refusal and preemptive rights with respect to the issue thereof, with the holders being entitled to all rights accorded to a holder of Common Stock. Upon issuance in accordance with the terms and conditions of this Agreement, the Commitment Shares (as defined below in Section 5(e)) shall be validly issued, fully paid and nonassessable and free from all taxes, liens, charges, restrictions, rights of first refusal and preemptive rights with respect to the issue thereof, with the holders being entitled to all rights accorded to a holder of Common Stock. 11,422,395 shares of Common Stock (subject to equitable adjustment for any reorganization, recapitalization, non-cash dividend, stock split or other similar transaction) have been duly authorized and reserved for issuance upon purchase under this Agreement as Purchase Shares. 304,077 shares of Common Stock (subject to equitable adjustment for any reorganization, recapitalization, non-cash dividend, stock split or other similar transaction) have been duly authorized and reserved for issuance as Additional Commitment Shares in accordance with this Agreement.

(e) No Conflicts. The execution, delivery and performance of the Transaction Documents by the Company and the consummation by the Company of the transactions contemplated hereby and thereby (including, without limitation, the reservation for issuance and issuance of the Purchase Shares and the Commitment Shares) will not (i) result in a violation of the Certificate of Incorporation, any Certificate of Designations, Preferences and Rights of any outstanding series of preferred stock of the Company or the Bylaws or (ii) conflict with, or constitute a default (or an event which with notice or lapse of time or both would become a default) under, or give to others any rights of termination, amendment, acceleration or cancellation of, any agreement, indenture or instrument to which the Company or any of its Subsidiaries is a party, or result in a violation of any law, rule, regulation, order, judgment or decree (including federal and state securities laws and regulations and the rules and regulations of the Principal Market applicable to the Company or any of its Subsidiaries) or by which any property or asset of the Company or any of its Subsidiaries is bound or affected, except in the case of conflicts, defaults, terminations, amendments, accelerations, cancellations and violations under clause (ii), which could not reasonably be expected to result in a Material Adverse Effect. Neither the Company nor its Subsidiaries is in violation of any term of or in default under its Certificate of Incorporation, any Certificate of Designation, Preferences and Rights of any outstanding series of preferred stock of the Company or Bylaws or their organizational charter or bylaws, respectively. Neither the Company nor any of its Subsidiaries is in violation of any term of or is in default under any material contract, agreement, mortgage, indebtedness, indenture, instrument, judgment, decree or order or any statute, rule or regulation applicable to the Company or its Subsidiaries, except for possible conflicts, defaults, terminations or amendments that could not reasonably be expected to have a Material Adverse Effect. The business of the Company and its Subsidiaries is not being conducted, and shall not be conducted, in violation of any law, ordinance or regulation of any governmental entity, except for possible violations, the sanctions for which either individually or in the aggregate could not reasonably be expected to have a Material Adverse Effect. Except as specifically contemplated by this Agreement and as required under the Securities Act or applicable state securities laws and the rules and regulations of the Principal Market, the Company is not required to obtain any consent, authorization or order of, or make any filing or registration with, any court or governmental agency or any regulatory or self-regulatory agency in order for it to execute, deliver or perform any of its obligations under or contemplated by the Transaction Documents in accordance with the terms hereof or thereof. Except as set forth elsewhere in this Agreement, all consents, authorizations, orders, filings and registrations which the Company is required to obtain pursuant to the preceding sentence shall be obtained or effected on or prior to the Commencement Date. Except as disclosed in the SEC Documents, since one year prior to the date hereof, the Company has not received nor delivered any notices or correspondence from or to the Principal Market, other than notices with respect to listing of additional shares of Common Stock and other routine correspondence. Except as disclosed in the SEC Documents, the Principal Market has not commenced any delisting proceedings against the Company.

(f) SEC Documents; Financial Statements. The Company has filed all reports, schedules, forms, statements and other documents required to be filed by the Company under the Securities Act and the Exchange Act, including pursuant to Section 13(a) or 15(d) thereof, for the twelve months preceding the date hereof (or such shorter period as the Company was required by law or regulation to file such material) (the foregoing materials, including the exhibits thereto and documents incorporated by reference therein, being collectively referred to herein as the "SEC Documents") on a timely basis or has received a valid extension of such time of filing and has filed any such SEC Documents prior to the expiration of any such extension. As of their respective dates, the SEC Documents complied in all material respects with the requirements of the Securities Act and the Exchange Act, as applicable. None of the SEC Documents, when filed, contained any untrue statement of a material fact or omitted to state a material fact required to be stated therein or necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading. The financial statements of the Company included in the SEC Documents comply in all material respects with applicable accounting requirements and the rules and regulations of the SEC with respect thereto as in effect at the time of filing. Such financial statements have been prepared in accordance with United States generally accepted accounting principles applied on a consistent basis during the periods involved ("GAAP"), except as may be otherwise specified in such financial statements or the notes thereto and except that unaudited financial statements may not contain all footnotes required by GAAP, and fairly present in all material respects the financial position of the Company and its consolidated Subsidiaries as of and for the dates thereof and the results of operations and cash flows for the periods then ended, subject, in the case of unaudited statements, to normal, immaterial, year-end audit adjustments. Except as set forth in the SEC Documents, other than SEC comment letters relating to the Company's filings (of which not comments are "open"), the Company has received no notices or correspondence from the SEC for the one year preceding the date hereof**.** The SEC has not commenced any enforcement proceedings against the Company or any of its Subsidiaries.

(g) Absence of Certain Changes. Except as disclosed in the SEC Documents, since December 31, 2019, (i) there has been no material adverse change in the business, properties, operations, financial condition or results of operations of the Company or its Subsidiaries,(ii) the Company and its Subsidiaries, considered as one entity, have not incurred any material liability or obligation, indirect, direct or contingent, including without limitation any losses or interference with its business from fire, explosion, flood, earthquakes, accident or other calamity, whether or not covered by insurance, or from any strike, labor dispute or court or governmental action, order or decree, that are material, individually or in the aggregate, to the Company and its Subsidiaries, considered as one entity, or has entered into any transactions not in the ordinary course of business; (iii) there has not been any material disruption, material delay or other material adverse change in (A) the development of any of the Company's product candidates, (B) the anticipated timeline of pre-clinical or clinical trials to support the development of any of the Company's product candidates, or (C) the recruitment of candidates for clinical trials to support the development of any of the Company's product candidates, in each case as a result of the recent outbreak of COVID-19, or as a result of any measures intended to contain the outbreak of COVID-19 imposed by any federal, state, local or foreign government or government agency in any country or region in which the Company, or any of its agents, consultants, advisors or vendors, has assets or properties or conducts business, including, without limitation, any limitations, curtailments, suspensions or closures of businesses, business offices or establishments, schools, properties and other public areas due to quarantines, curfews, travel restrictions, workplace controls, "stay at home" orders, social distancing requirements or guidelines or other public gathering restrictions or limitations; and (iv) there has not been any material decrease in the capital stock or any material increase in any short-term or long-term indebtedness of the Company or its Subsidiaries and there has been no dividend or distribution of any kind declared, paid or made by the Company or, except for dividends paid to the Company or other Subsidiaries, by any of the Company's Subsidiaries on any class of capital stock, or any repurchase or redemption by the Company or any of its Subsidiaries of any class of capital stock. The Company has not taken any steps, and does not currently expect to take any steps, to seek protection pursuant to any Bankruptcy Law nor does the Company or any of its Subsidiaries have any knowledge or reason to believe that its creditors intend to initiate involuntary bankruptcy or insolvency proceedings. The Company is financially solvent and is generally able to pay its debts as they become due.

(h) Absence of Litigation. There is no action, suit, proceeding, inquiry or investigation before or by any court, public board, government agency, self-regulatory organization or body pending or, to the knowledge of the Company or any of its Subsidiaries, threatened against or affecting the Company, the Common Stock or any of the Company's or its Subsidiaries' officers or directors in their capacities as such, which could reasonably be expected to have a Material Adverse Effect.

(i) Acknowledgment Regarding Investor's Status. The Company acknowledges and agrees that the Investor is acting solely in the capacity of arm's length purchaser with respect to the Transaction Documents and the transactions contemplated hereby and thereby. The Company further acknowledges that the Investor is not acting as a financial advisor or fiduciary of the Company (or in any similar capacity) with respect to the Transaction Documents and the transactions contemplated hereby and thereby and any advice given by the Investor or any of its representatives or agents in connection with the Transaction Documents and the transactions contemplated hereby and thereby is merely incidental to the Investor's purchase of the Securities. The Company further represents to the Investor that the Company's decision to enter into the Transaction Documents has been based solely on the independent evaluation by the Company and its representatives and advisors.

(j) No Integrated Offering. Neither the Company, nor any of its affiliates, nor any Person acting on its or their behalf has, directly or indirectly, made any offers or sales of any security or solicited any offers to buy any security, under circumstances that would cause this offering of the Securities to be integrated with prior offerings by the Company in a manner that would require stockholder approval pursuant to the rules of the Principal Market on which any of the securities of the Company are listed or designated. The issuance and sale of the Securities hereunder does not contravene the rules and regulations of the Principal Market.

(k) Intellectual Property Rights. The Company and its Subsidiaries own or possess adequate rights or licenses to use all material trademarks, trade names, service marks, service mark registrations, service names, patents, patent rights, copyrights, inventions, licenses, approvals, governmental authorizations, trade secrets and rights necessary to conduct their respective businesses as now conducted. Except as set forth in the SEC Documents, none of the Company's material trademarks, trade names, service marks, service mark registrations, service names, patents, patent rights, copyrights, inventions, licenses, approvals, government authorizations, trade secrets or other intellectual property rights have expired or terminated, or, by the terms and conditions thereof, could expire or terminate within two years from the date of this Agreement. The Company and its Subsidiaries do not have any knowledge of any infringement by the Company or its Subsidiaries of any material trademark, trade name rights, patents, patent rights, copyrights, inventions, licenses, service names, service marks, service mark registrations, trade secret or other similar rights of others, or of any such development of similar or identical trade secrets or technical information by others, and there is no claim, action or proceeding being made or brought against, or to the Company's knowledge, being threatened against, the Company or its Subsidiaries regarding trademark, trade name, patents, patent rights, invention, copyright, license, service names, service marks, service mark registrations, trade secret or other infringement, which could reasonably be expected to have a Material Adverse Effect.

(l) Environmental Laws. The Company and its Subsidiaries (i) are in compliance with any and all applicable foreign, federal, state and local laws and regulations relating to the protection of human health and safety, the environment or hazardous or toxic substances or wastes, pollutants or contaminants ("Environmental Laws"), (ii) have received all permits, licenses or other approvals required of them under applicable Environmental Laws to conduct their respective businesses and (iii) are in compliance with all terms and conditions of any such permit, license or approval, except where, in each of the three foregoing clauses, the failure to so comply could not reasonably be expected to have, individually or in the aggregate, a Material Adverse Effect.

(m) Title. Except as set forth in the SEC Documents, the Company and its Subsidiaries have good and marketable title in fee simple to all real property owned by them and good and marketable title in all personal property owned by them that is material to the business of the Company and its Subsidiaries, in each case free and clear of all liens, encumbrances and defects ("Liens") and, except for Liens as do not materially affect the value of such property and do not materially interfere with the use made and proposed to be made of such property by the Company and its Subsidiaries and Liens for the payment of federal, state or other taxes, the payment of which is neither delinquent nor subject to penalties. Any real property and facilities held under lease by the Company and its Subsidiaries are held by them under valid, subsisting and enforceable leases with which the Company and its Subsidiaries are in compliance with such exceptions as are not material and do not interfere with the use made and proposed to be made of such property and buildings by the Company and its Subsidiaries.

(n) Insurance. The Company and each of its Subsidiaries are insured by insurers of recognized financial responsibility against such losses and risks and in such amounts as management of the Company believes to be prudent and customary in the businesses in which the Company and its Subsidiaries are engaged. Neither the Company nor any such Subsidiary has been refused any insurance coverage sought or applied for and neither the Company nor any such Subsidiary has any reason to believe that it will not be able to renew its existing insurance coverage as and when such coverage expires or to obtain similar coverage from similar insurers as may be necessary to continue its business at a cost that would not materially and adversely affect the condition, financial or otherwise, or the earnings, business or operations of the Company and its Subsidiaries, taken as a whole.

(o) Regulatory Permits. The Company and its Subsidiaries possess all material certificates, authorizations and permits issued by the appropriate federal, state or foreign regulatory authorities necessary to conduct their respective businesses, and neither the Company nor any such Subsidiary has received any notice of proceedings relating to the revocation or modification of any such certificate, authorization or permit.

(p) Tax Status. The Company and each of its Subsidiaries has made or filed all federal and state income and all other material tax returns, reports and declarations required by any jurisdiction to which it is subject (unless and only to the extent that the Company and each of its Subsidiaries has set aside on its books provisions reasonably adequate for the payment of all unpaid and unreported taxes) and has paid all taxes and other governmental assessments and charges that are material in amount, shown or determined to be due on such returns, reports and declarations, except those being contested in good faith and has set aside on its books provision reasonably adequate for the payment of all taxes for periods subsequent to the periods to which such returns, reports or declarations apply. There are no unpaid taxes in any material amount claimed to be due by the taxing authority of any jurisdiction, and the officers of the Company know of no basis for any such claim.

(q) Transactions With Affiliates. Except as set forth in the SEC Documents, none of the officers or directors of the Company and, to the knowledge of the Company, none of the employees of the Company is presently a party to any transaction with the Company or any Subsidiary (other than for services as employees, officers and directors), including any contract, agreement or other arrangement providing for the furnishing of services to or by, providing for rental of real or personal property to or from, or otherwise requiring payments to or from any officer, director or such employee or, to the knowledge of the Company, any entity in which any officer, director, or any such employee has a substantial interest or is an officer, director, trustee or partner, in each case in excess of $120,000 other than for (i) payment of salary or consulting fees for services rendered, (ii) reimbursement for expenses incurred on behalf of the Company and (iii) other employee benefits, including stock option agreements under any stock option plan of the Company.

(r) Application of Takeover Protections. The Company and its board of directors have taken or will take prior to the Commencement Date all necessary action, if any, in order to render inapplicable any control share acquisition, business combination, poison pill (including any distribution under a rights agreement) or other similar anti-takeover provision under the Certificate of Incorporation or the laws of the state of its incorporation which is or could become applicable to the Investor as a result of the transactions contemplated by this Agreement, including, without limitation, the Company's issuance of the Securities and the Investor's ownership of the Securities.

(s) Disclosure. Except with respect to the material terms and conditions of the transactions contemplated by the Transaction Documents that will be timely publicly disclosed by the Company, the Company confirms that neither it nor any other Person acting on its behalf has provided the Investor or its agents or counsel with any information that it believes constitutes or might constitute material, non-public information which is not otherwise disclosed in the Registration Statement or the SEC Documents. The Company understands and confirms that the Investor will rely on the foregoing representation in effecting purchases and sales of securities of the Company. All of the disclosure furnished by or on behalf of the Company to the Investor regarding the Company, its business and the transactions contemplated hereby is true and correct and does not contain any untrue statement of a material fact or omit to state any material fact necessary in order to make the statements made therein, in light of the circumstances under which they were made, not misleading. The press releases disseminated by the Company during the twelve months preceding the date of this Agreement taken as a whole do not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary in order to make the statements therein, in light of the circumstances under which they were made and when made, not misleading. The Company acknowledges and agrees that the Investor neither makes nor has made any representations or warranties with respect to the transactions contemplated hereby other than those specifically set forth in Section 3 hereof.

(t) Foreign Corrupt Practices. Neither the Company, nor to the knowledge of the Company, any agent or other Person acting on behalf of the Company, has (i) directly or indirectly, used any funds for unlawful contributions, gifts, entertainment or other unlawful expenses related to foreign or domestic political activity, (ii) made any unlawful payment to foreign or domestic government officials or employees or to any foreign or domestic political parties or campaigns from corporate funds, (iii) failed to disclose fully any contribution made by the Company (or made by any Person acting on its behalf of which the Company is aware) which is in violation of law, or (iv) violated in any material respect any provision of the Foreign Corrupt Practices Act of 1977, as amended.

(u) Registration Statement. The Company has prepared and filed the Registration Statement with the SEC in accordance with the Securities Act. The Registration Statement was declared effective by order of the SEC on April 9, 2020. The Registration Statement is effective pursuant to the Securities Act and available for the issuance of the Securities thereunder, and the Company has not received any written notice that the SEC has issued or intends to issue a stop order or other similar order with respect to the Registration Statement or the Prospectus or that the SEC otherwise has (i) suspended or withdrawn the effectiveness of the Registration Statement or (ii) issued any order preventing or suspending the use of the Prospectus or any Prospectus Supplement, in either case, either temporarily or permanently or intends or has threatened in writing to do so. The "Plan of Distribution" section of the Prospectus permits the issuance of the Securities under the terms of this Agreement. At the time the Registration Statement and any amendments thereto became effective, at the date of this Agreement and at each deemed effective date thereof pursuant to Rule 430B(f)(2) of the Securities Act, the Registration Statement and any amendments thereto complied and will comply in all material respects with the requirements of the Securities Act and did not and will not contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary to make the statements therein not misleading; and the Base Prospectus and any Prospectus Supplement thereto, at the time such Base Prospectus or such Prospectus Supplement thereto was issued and on the Commencement Date, complied and will comply in all material respects with the requirements of the Securities Act and did not and will not contain an untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in light of the circumstances under which they were made, not misleading; provided that this representation and warranty does not apply to statements in or omissions from any Prospectus Supplement made in reliance upon and in conformity with information relating to the Investor furnished to the Company in writing by or on behalf of the Investor expressly for use therein. The Company meets all of the requirements for the use of a registration statement on Form S-3 pursuant to the Securities Act for the offering and sale of the Securities contemplated by this Agreement in reliance on General Instruction I.B.1. of Form S-3, and the SEC has not notified the Company of any objection to the use of the form of the Registration Statement pursuant to Rule 401(g)(1) of the Securities Act. The Company hereby confirms that the issuance of the Securities to the Investor pursuant to this Agreement would not result in non-compliance with the Securities Act or any of the General Instructions to Form S-3. The Registration Statement, as of its effective date, meets the requirements set forth in Rule 415(a)(1)(x) pursuant to the Securities Act. At the earliest time after the filing of the Registration Statement that the Company or another offering participant made a bona fide offer (within the meaning of Rule 164(h)(2) of the Securities Act) relating to any of the Securities, the Company was not, and as of the date of this Agreement the Company is not, an Ineligible Issuer (as defined in Rule 405 of the Securities Act). The Company has not distributed any offering material in connection with the offering and sale of any of the Securities, and, until the Investor does not hold any of the Securities, shall not distribute any offering material in connection with the offering and sale of any of the Securities, to or by the Investor, in each case, other than the Registration Statement or any amendment thereto, the Prospectus or any Prospectus Supplement required pursuant to applicable law or the Transaction Documents. The Company has not made and shall not make an offer relating to the Securities that would constitute a "free writing prospectus" as defined in Rule 405 under the Securities Act.

(v) DTC Eligibility. The Company, through the Transfer Agent, currently participates in the DTC Fast Automated Securities Transfer (FAST) Program and the Common Stock can be transferred electronically to third parties via the DTC Fast Automated Securities Transfer (FAST) Program.

(w) Sarbanes-Oxley. The Company is in compliance in all material respects with all provisions of the Sarbanes-Oxley Act of 2002, as amended, which are applicable to it as of the date hereof.

(x) Certain Fees. No brokerage or finder's fees or commissions are or will be payable by the Company to any broker, financial advisor or consultant, finder, placement agent, investment banker, bank or other Person with respect to the transactions contemplated by the Transaction Documents. The Investor shall have no obligation with respect to any fees or with respect to any claims made by or on behalf of other Persons for fees of a type contemplated in this Section 4(x) that may be due in connection with the transactions contemplated by the Transaction Documents.

(y) Investment Company. The Company is not, and immediately after receipt of payment for the Securities will not be, an "investment company" within the meaning of the Investment Company Act of 1940, as amended.

(z) Listing and Maintenance Requirements. The Common Stock is registered pursuant to Section 12(b) of the Exchange Act, and the Company has taken no action designed to, or which to its knowledge is likely to have the effect of, terminating the registration of the Common Stock pursuant to the Exchange Act nor has the Company received any notification that the SEC is currently contemplating terminating such registration. Except as disclosed in the SEC Documents, the Company has not, in the twelve (12) months preceding the date hereof, received any notice from any Person to the effect that the Company is not in compliance with the listing or maintenance requirements of the Principal Market. Except as disclosed in the SEC Documents, the Company is in compliance with all such listing and maintenance requirements.

(aa) Accountants. The Company's accountants are set forth in the SEC Documents and, to the knowledge of the Company, such accountants are an independent registered public accounting firm as required by the Securities Act.

(bb) No Market Manipulation. The Company has not, and to its knowledge no Person acting on its behalf has, (i) taken, directly or indirectly, any action designed to cause or to result in the stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of any of the Securities, (ii) sold, bid for, purchased, or, paid any compensation for soliciting purchases of, any of the Securities, or (iii) paid or agreed to pay to any Person any compensation for soliciting another to purchase any other securities of the Company.

(cc) Bank Holding Company Act. Neither the Company nor any of its Subsidiaries or affiliates is subject to the Bank Holding Company Act of 1956, as amended (the "BHCA") and to regulation by the Board of Governors of the Federal Reserve System (the "Federal Reserve"). Neither the Company nor any of its Subsidiaries or affiliates owns or controls, directly or indirectly, five percent (5%) or more of the outstanding shares of any class of voting securities or twenty-five percent or more of the total equity of a bank or any entity that is subject to the BHCA and to regulation by the Federal Reserve. Neither the Company nor any of its Subsidiaries or affiliates exercises a controlling influence over the management or policies of a bank or any entity that is subject to the BHCA and to regulation by the Federal Reserve.

(dd) Money Laundering. The operations of the Company and its Subsidiaries are and have been conducted at all times in compliance with applicable financial record-keeping and reporting requirements of the Currency and Foreign Transactions Reporting Act of 1970, as amended, applicable money laundering statutes and applicable rules and regulations thereunder (collectively, the "Money Laundering Laws"), and no action, suit or proceeding by or before any court or governmental agency, authority or body or any arbitrator involving the Company or any Subsidiary with respect to the Money Laundering Laws is pending or, to the knowledge of the Company or any Subsidiary, threatened.

(ee) Information Technology. The Company's and the Subsidiaries' information technology assets and equipment, computers, systems, networks, hardware, software, websites, applications, and databases (collectively, "IT Systems") operate and perform in all material respects as required in connection with the operation of the business of the Company and the Subsidiaries as currently conducted. The Company, and the Subsidiaries maintain commercially reasonable controls, policies, procedures, and safeguards to maintain and protect their material confidential information and the integrity, continuous operation, redundancy and security of all IT Systems and all personal, personally identifiable, sensitive, confidential or regulated data ("Personal Data") processed and stored thereon, and to the knowledge of the Company, there have been no breaches, incidents, violations, outages, compromises or unauthorized uses of or accesses to same, except for those that have been remedied without material cost or liability or the duty to notify any other person, nor any incidents under internal review or investigations relating to the same. The Company and the Subsidiaries are presently in compliance in all material respects with all applicable laws or statutes and all applicable judgments, orders, rules and regulations of any court or arbitrator or governmental or regulatory authority, internal policies and contractual obligations relating to the privacy and security of IT Systems and Personal Data and to the protection of such IT Systems and Personal Data from unauthorized use, access, misappropriation or modification, except for any such noncompliance that would not have a Material Adverse Effect.

(ff) Shell Company Status. The Company is not currently, and has never been, an issuer identified in Rule 144(i)(1) under the Securities Act.

5. COVENANTS.

(a) Filing of Quarterly Report and Initial Prospectus Supplement. The Company agrees that it shall, on the Business Day immediately following the date of this Agreement, file with the SEC a quarterly report on Form 10-Q, which shall include a description of the material terms and conditions of the Transaction Documents (the "Quarterly Report"). The Company further agrees that it shall, on the date hereof, file with the SEC the Initial Prospectus Supplement pursuant to Rule 424(b) under the Securities Act, in the form agreed upon by the Investor prior to such filing, specifically relating to the transactions contemplated by, and describing the material terms and conditions of, the Transaction Documents, containing information previously omitted at the time of effectiveness of the Registration Statement in reliance on Rule 430B under the Securities Act, and disclosing all information relating to the transactions contemplated hereby required to be disclosed in the Registration Statement and the Prospectus as of the date of the Initial Prospectus Supplement, including, without limitation, information required to be disclosed in the section captioned "Plan of Distribution" in the Prospectus, pursuant to and in accordance with the terms of the Registration Rights Agreement.

(b) Blue Sky. The Company shall take all such action, if any, as is reasonably necessary in order to obtain an exemption for or to register or qualify (i) the issuance of the Commitment Shares and the issuance and sale of the Purchase Shares to the Investor under this Agreement and (ii) any subsequent resale of the Securities by the Investor, in each case, under applicable securities or "Blue Sky" laws of the states of the United States in such states as is reasonably requested by the Investor from time to time, and shall provide evidence of any such action so taken to the Investor.

(c) Listing/DTC. The Company shall promptly secure the listing of all of the Purchase Shares and Commitment Shares to be issued to the Investor hereunder on the Principal Market (subject to official notice of issuance) and upon each other national securities exchange or automated quotation system, if any, upon which the Common Stock is then listed, and shall use commercially reasonable efforts to maintain, so long as any shares of Common Stock shall be so listed, such listing of all such Securities from time to time issuable hereunder. The Company shall use commercially reasonable efforts to maintain the listing of the Common Stock on the Principal Market and shall comply in all respects with the Company's reporting, filing and other obligations under the bylaws or rules and regulations of the Principal Market. Neither the Company nor any of its Subsidiaries shall take any action that would reasonably be expected to result in the delisting or suspension of the Common Stock on the Principal Market. The Company shall promptly, and in no event later than the following Business Day, provide to the Investor copies of any notices it receives from any Person regarding the continued eligibility of the Common Stock for listing on the Principal Market; provided, however, that the Company shall not be required to provide the Investor copies of any such notice that the Company reasonably believes constitutes material non-public information and the Company would not be required to publicly disclose such notice in any report or statement filed with the SEC and under the Exchange Act or the Securities Act. The Company shall pay all fees and expenses in connection with satisfying its obligations under this Section 5(c). The Company shall take all action necessary to ensure that its Common Stock can be transferred electronically as DWAC Shares.

(d) Prohibition of Short Sales and Hedging Transactions. The Investor agrees that beginning on the date of this Agreement and ending on the date of termination of this Agreement as provided in Section 11, the Investor and its agents, representatives and affiliates shall not in any manner whatsoever enter into or effect, directly or indirectly, any (i) "short sale" (as such term is defined in Rule 200 of Regulation SHO of the Exchange Act) of the Common Stock or (ii) hedging transaction, which establishes a net short position with respect to the Common Stock.

(e) Issuance of Commitment Shares. In consideration for the Investor's execution and delivery of this Agreement, the Company shall cause to be issued to the Investor a total of 760,194 shares of Common Stock (the "Initial Commitment Shares") immediately upon the execution of this Agreement and shall deliver to the Transfer Agent the Irrevocable Transfer Agent Instructions with respect to the issuance of such Initial Commitment Shares. The Company shall cause to be issued to the Investor up to 304,077 shares of Common Stock (the "Additional Commitment Shares" and, collectively with the Initial Commitment Shares, the "Commitment Shares"), as follows: in connection with each purchase of Purchase Shares hereunder, the Company shall issue to the Investor a number of shares of Common Stock equal to the product of (i) 304,077 and (y) the Purchase Amount Fraction. The "Purchase Amount Fraction" shall mean a fraction, the numerator of which is the Purchase Amount purchased by the Investor with respect to such purchase of Purchase Shares and the denominator of which is Twenty-Two Million Dollars ($22,000,000). The Additional Commitment Shares shall be equitably adjusted for any reorganization, recapitalization, non-cash dividend, stock split or other similar transaction. For the avoidance of doubt, (1) all of the Initial Commitment Shares shall be fully earned as of the date of this Agreement, whether or not the Commencement shall occur or any Purchase Shares are purchased by the Investor under this Agreement and irrespective of any subsequent termination of this Agreement and (2) the Additional Commitment Shares shall be fully earned as of the date of their issuance pursuant to this Agreement, whether or not any additional Purchase Shares are purchased thereafter by the Investor under this Agreement and irrespective of any subsequent termination of this Agreement.

(f) Due Diligence; Non-Public Information. The Investor shall have the right, from time to time as the Investor may reasonably deem appropriate and upon reasonable advance notice to the Company, to perform reasonable due diligence on the Company during normal business hours. The Company and its officers and employees shall provide information and reasonably cooperate with the Investor in connection with any reasonable request by the Investor related to the Investor's due diligence of the Company. Each party hereto agrees not to disclose any Confidential Information of the other party to any third party and shall not use the Confidential Information for any purpose other than in connection with, or in furtherance of, the transactions contemplated hereby. Each party hereto acknowledges that the Confidential Information shall remain the property of the disclosing party and agrees that it shall take all reasonable measures to protect the secrecy of any Confidential Information disclosed by the other party. The Company confirms that neither it nor any other Person acting on its behalf shall provide the Investor or its agents or counsel with any information that constitutes or might constitute material, non-public information, unless a simultaneous public announcement thereof is made by the Company in the manner contemplated by Regulation FD. In the event of a breach of the foregoing covenant by the Company or any Person acting on its behalf (as determined in the reasonable good faith judgment of the Investor), in addition to any other remedy provided herein or in the other Transaction Documents, if the Investor is holding any Securities at the time of the disclosure of material, non-public information, the Investor shall have the right to make a public disclosure, in the form of a press release, public advertisement or otherwise, of such material, non-public information without the prior approval by the Company; provided the Investor shall have first provided notice to the Company that it believes it has received information that constitutes material, non-public information, the Company shall have at least two (2) Business Days to publicly disclose such material, non-public information prior to any such disclosure by the Investor, the Company shall have failed to demonstrate to the Investor in writing within such time period that such information does not constitute material, non-public information, and the Company shall have failed to publicly disclose such material, non-public information within such time period. The Investor shall not have any liability to the Company, any of its Subsidiaries, or any of their respective directors, officers, employees, stockholders or agents, for any such disclosure. The Company understands and confirms that the Investor shall be relying on the foregoing covenants in effecting transactions in securities of the Company.

(g) Purchase Records. The Investor and the Company shall each maintain records showing the remaining Available Amount at any given time and the dates and Purchase Amounts for the Initial Purchase and each Regular Purchase, Accelerated Purchase and Additional Accelerated Purchase or shall use such other method, reasonably satisfactory to the Investor and the Company.

(h) Taxes. The Company shall pay any and all transfer, stamp or similar taxes that may be payable with respect to the issuance and delivery of any shares of Common Stock to the Investor made under this Agreement.

(i) Use of Proceeds. The Company will use the net proceeds from the offering as described in the Prospectus.

(j) Other Transactions. The Company shall not enter into, announce or recommend to its stockholders any agreement, plan, arrangement or transaction in or of which the terms thereof would restrict, materially delay, conflict with or impair the ability or right of the Company to perform its obligations under the Transaction Documents, including, without limitation, the obligation of the Company to deliver the Securities to the Investor in accordance with the terms of the Transaction Documents.

(k) No Aggregation. From and after the date of this Agreement, neither the Company, nor or any of its affiliates will, and the Company shall use its commercially reasonable efforts to ensure that no Person acting on their behalf will, directly or indirectly, make any offers or sales of any security or solicit any offers to buy any security, under circumstances that would reasonably be expected to cause this offering of the Securities by the Company to the Investor to be aggregated with other offerings by the Company in a manner that would require stockholder approval pursuant to the rules of the Principal Market on which any of the securities of the Company are listed or designated unless stockholder approval is obtained before the closing of such subsequent transaction in accordance with the rules of such Principal Market.

(l) Limitation on Variable Rate Transactions. From and after the date of this Agreement until the earlier of: (i) the nine (9) month anniversary of the termination of this Agreement in accordance with Section 11 hereof and (ii) the later of (A) the 36-month anniversary of the date of this Agreement and (B) the 36-month anniversary of the Commencement Date (if the Commencement has occurred), the Company shall be prohibited from effecting or entering into an agreement to effect any issuance by the Company or any of its Subsidiaries of Common Stock or Common Stock Equivalents (or a combination of units thereof) involving a Variable Rate Transaction, other than in connection with an Exempt Issuance. The Investor shall be entitled to seek injunctive relief against the Company and its Subsidiaries to preclude any such issuance, which remedy shall be in addition to any right to collect damages, without the necessity of showing economic loss and without any bond or other security being required. "Common Stock Equivalents" means any securities of the Company or its Subsidiaries which entitle the holder thereof to acquire at any time Common Stock, including, without limitation, any debt, preferred stock, rights, options, warrants or other instrument that is at any time convertible into or exercisable or exchangeable for, or otherwise entitles the holder thereof to receive, Common Stock. "Variable Rate Transaction" means a transaction in which the Company (i) issues or sells any equity or debt securities that are convertible into, exchangeable or exercisable for, or include the right to receive additional shares of Common Stock or Common Stock Equivalents either (A) at a conversion price, exercise price, exchange rate or other price that is based upon and/or varies with the trading prices of or quotations for the Common Stock at any time after the initial issuance of such equity or debt securities, or (B) with a conversion, exercise or exchange price that is subject to being reset at some future date after the initial issuance of such equity or debt security or upon the occurrence of specified or contingent events directly or indirectly related to the business of the Company or the market for the Common Stock (including, without limitation, any "full ratchet" or "weighted average" anti-dilution provisions, but not including any standard anti-dilution protection for any reorganization, recapitalization, non-cash dividend, stock split or other similar transaction), (ii) issues or sells any equity or debt securities, including without limitation, Common Stock or Common Stock Equivalents, either (A) at a price that is subject to being reset at some future date after the initial issuance of such debt or equity security or upon the occurrence of specified or contingent events directly or indirectly related to the business of the Company or the market for the Common Stock (other than standard anti-dilution protection for any reorganization, recapitalization, non-cash dividend, stock split or other similar transaction), or (B) that are subject to or contain any put, call, redemption, buy-back, price-reset or other similar provision or mechanism (including, without limitation, a "Black-Scholes" put or call right, other than in connection with a "fundamental transaction") that provides for the issuance of additional equity securities of the Company or the payment of cash by the Company, or (iii) enters into any agreement, including, but not limited to, an "equity line of credit" or other continuous offering or similar offering of Common Stock or Common Stock Equivalents, whereby the Company may sell Common Stock or Common Stock Equivalents at a future determined price. "Exempt Issuance" means the issuance of (a) Common Stock, options or other equity incentive awards to employees, officers, directors or vendors of the Company pursuant to any equity incentive plan duly adopted for such purpose, by the Board of Directors or a majority of the members of a committee of directors established for such purpose, (b) (1) any Securities issued to the Investor pursuant to this Agreement, (2) any securities issued upon the exercise or exchange of or conversion of any shares of Common Stock or Common Stock Equivalents held by the Investor at any time, or (3) any securities issued upon the exercise or exchange of or conversion of any Common Stock Equivalents issued and outstanding on the date of this Agreement, provided that such securities referred to in this clause (3) have not been amended since the date of this Agreement to increase the number of such securities or to decrease the exercise price, exchange price or conversion price of such securities, (c) securities issued pursuant to acquisitions, divestitures, licenses, partnerships, collaborations or strategic transactions approved by the Board of Directors or a majority of the members of a committee of directors established for such purpose, which acquisitions, divestitures, licenses, partnerships, collaborations or strategic transactions can have a Variable Rate Transaction component, provided that any such issuance shall only be to a Person (or to the equity holders of a Person) which is, itself or through its subsidiaries, an operating company or an asset in a business synergistic with the business of the Company and shall provide to the Company additional benefits in addition to the investment of funds, but shall not include a transaction in which the Company is issuing securities primarily for the purpose of raising capital or to an entity whose primary business is investing in securities, or (d) Common Stock issued pursuant to an "at-the-market offering" by the Company exclusively through one or more registered broker-dealers acting as agents of the Company pursuant to a written agreement between the Company and such registered broker-dealer(s).

6. TRANSFER AGENT INSTRUCTIONS.

On the date of this Agreement, the Company shall issue to the Transfer Agent (and any subsequent transfer agent) irrevocable instructions, in the form substantially similar to those used by the Investor in substantially similar transactions, to issue the Purchase Shares (including the Initial Purchase Shares), the Initial Commitment Shares and the Additional Commitment Shares in accordance with the terms of this Agreement (the "Irrevocable Transfer Agent Instructions"). All Securities to be issued to or for the benefit of the Investor pursuant to this Agreement shall be issued as DWAC Shares. The Company represents and warrants to the Investor that no instruction other than the Irrevocable Transfer Agent Instructions referred to in this Section 6 will be given by the Company to the Transfer Agent with respect to the Securities, and the Securities shall otherwise be freely transferable on the books and records of the Company. If the Investor effects a sale, assignment or transfer of the Purchase Shares or the Commitment Shares, the Company shall permit the transfer and shall promptly instruct the Transfer Agent (and any subsequent transfer agent) to issue DWAC Shares in such name and in such denominations as specified by the Investor to effect such sale, transfer or assignment. The Company shall take all actions to carry out the intent and accomplish the purposes of this Section 6, including, without limitation, delivering or causing to be delivered all such legal opinions, consents, certificates, resolutions and instructions to the Transfer Agent, and any successor transfer agent of the Company, as may be requested from time to time by the Investor or necessary or desirable to carry out the intent and accomplish the purposes of this Section 6, and all fees and costs associated therewith shall be borne by the Company.

7. CONDITIONS TO THE COMPANY'S RIGHT TO COMMENCE SALES OF SHARES OF COMMON STOCK.

The right of the Company hereunder to commence sales of the Purchase Shares on the Commencement Date is subject to the satisfaction or, where legally permissible, the waiver of each of the following conditions:

(a) The Investor shall have executed each of the Transaction Documents and delivered the same to the Company;

(b) No stop order with respect to the Registration Statement shall be pending or threatened by the SEC; and

(c) The representations and warranties of the Investor shall be true and correct in all material respects as of the date hereof and as of the Commencement Date as though made at that time.

8. CONDITIONS TO THE INVESTOR'S OBLIGATION TO PURCHASE SHARES OF COMMON STOCK.

The obligation of the Investor to buy Purchase Shares under this Agreement is subject to the satisfaction or, where legally permissible, the waiver of each of the following conditions on or prior to the Commencement Date and, once such conditions have been initially satisfied, there shall not be any ongoing obligation to satisfy such conditions after the Commencement has occurred:

(a) The Company shall have executed each of the Transaction Documents and delivered the same to the Investor;

(b) The Common Stock shall be listed or quoted on the Principal Market, trading in the Common Stock shall not have been within the last 365 days suspended by the SEC or the Principal Market, and all Securities to be issued by the Company to the Investor pursuant to this Agreement shall have been approved for listing or quotation on the Principal Market in accordance with the applicable rules and regulations of the Principal Market, subject only to official notice of issuance;

(c) The Investor shall have received the opinions and negative assurances of the Company's legal counsel dated as of the Commencement Date substantially in the form heretofore agreed by the parties hereto;

(d) The representations and warranties of the Company shall be true and correct in all material respects (except to the extent that any of such representations and warranties is already qualified as to materiality in Section 4 above, in which case, the portion of such representations and warranties so qualified shall be true and correct without further qualification) as of the date hereof and as of the Commencement Date as though made at that time (except for representations and warranties that speak as of a specific date, which shall be true and correct as of such date) and the Company shall have performed, satisfied and complied with the covenants, agreements and conditions required by the Transaction Documents to be performed, satisfied or complied with by the Company at or prior to the Commencement Date. The Investor shall have received a certificate, executed by the CEO, President or CFO of the Company, dated as of the Commencement Date, to the foregoing effect in the form attached hereto as **Exhibit A**;

(e) The Board of Directors of the Company shall have adopted resolutions substantially in the form attached hereto as **Exhibit B**, which shall be in full force and effect without any amendment or supplement thereto as of the Commencement Date;

(f) As of the Commencement Date, the Company shall have reserved out of its authorized and unissued Common Stock, (i) solely for the purpose of effecting purchases of Purchase Shares (including the Initial Purchase Shares) hereunder, 11,422,395 shares of Common Stock, and (ii) solely for the purpose of effecting the issuance of Additional Commitment Shares hereunder, 304,077 shares of Common Stock;

(g) The Irrevocable Transfer Agent Instructions shall have been delivered to and acknowledged in writing by the Company and the Company's Transfer Agent, and (i) the Initial Commitment Shares required to have been issued on the Commencement Date in accordance with Section 5(e) hereof and (ii) the Initial Purchase Shares required to have been issued on the Commencement Date in accordance with Section 2(d) hereof, in each case shall have been issued directly to the Investor electronically as DWAC Shares;

(h) The Company shall have delivered to the Investor a certificate evidencing the incorporation and good standing of the Company in the State of Delaware issued by the Secretary of State of the State of Delaware as of a date within ten (10) Business Days of the Commencement Date;

(i) The Company shall have delivered to the Investor a certified copy of the Certificate of Incorporation as certified by the Secretary of State of the State of Delaware within ten (10) Business Days of the Commencement Date;

(j) The Company shall have delivered to the Investor a secretary's certificate executed by the Secretary of the Company, dated as of the Commencement Date, in the form attached hereto as **Exhibit C**;

(k) The Registration Statement shall continue to be effective and no stop order with respect to the Registration Statement shall be pending or threatened by the SEC. The Company shall have a maximum dollar amount certain of Common Stock registered under the Registration Statement which is sufficient to issue to the Investor not less than (i) the full Available Amount worth of Purchase Shares (including the Initial Purchase Shares) plus (ii) all of the Commitment Shares. The Quarterly Report and the Initial Prospectus Supplement each shall have been filed with the SEC, as required pursuant to Section 5(a) and in compliance with Registration Rights Agreement, and copies of the Prospectus shall have been delivered to the Investor in accordance with Registration Rights Agreement. The Prospectus shall be current and available for issuances and sales of all of the Securities by the Company to the Investor, and for the resale of all of the Securities by the Investor. Any other Prospectus Supplements required to have been filed by the Company with the SEC under the Securities Act at or prior to the Commencement Date shall have been filed with the SEC within the applicable time periods prescribed for such filings under the Securities Act. All reports, schedules, registrations, forms, statements, information and other documents required to have been filed by the Company with the SEC at or prior to the Commencement Date pursuant to the reporting requirements of the Exchange Act shall have been filed with the SEC within the applicable time periods prescribed for such filings under the Exchange Act;

(l) No Event of Default has occurred, or any event which, after notice and/or lapse of time, would become an Event of Default has occurred;

(m) All federal, state and local governmental laws, rules and regulations applicable to the transactions contemplated by the Transaction Documents and necessary for the execution, delivery and performance of the Transaction Documents and the consummation of the transactions contemplated thereby in accordance with the terms thereof shall have been complied with, and all consents, authorizations and orders of, and all filings and registrations with, all federal, state and local courts or governmental agencies and all federal, state and local regulatory or self-regulatory agencies necessary for the execution, delivery and performance of the Transaction Documents and the consummation of the transactions contemplated thereby in accordance with the terms thereof shall have been obtained or made, including, without limitation, in each case those required under the Securities Act, the Exchange Act, applicable state securities or "Blue Sky" laws or applicable rules and regulations of the Principal Market, or otherwise required by the SEC, the Principal Market or any state securities regulators;

(n) No statute, regulation, order, decree, writ, ruling or injunction shall have been enacted, entered, promulgated, threatened or endorsed by any federal, state, local or foreign court or governmental authority of competent jurisdiction which prohibits the consummation of or which would materially modify or delay any of the transactions contemplated by the Transaction Documents; and

(o) No action, suit or proceeding before any federal, state, local or foreign arbitrator or any court or governmental authority of competent jurisdiction shall have been commenced or threatened, and no inquiry or investigation by any federal, state, local or foreign governmental authority of competent jurisdiction shall have been commenced or threatened, against the Company, or any of the officers, directors or affiliates of the Company, seeking to restrain, prevent or change the transactions contemplated by the Transaction Documents, or seeking material damages in connection with such transactions.

9. INDEMNIFICATION.

In consideration of the Investor's execution and delivery of the Transaction Documents and acquiring the Securities hereunder and in addition to all of the Company's other obligations under the Transaction Documents, the Company shall defend, protect, indemnify and hold harmless the Investor and all of its affiliates, stockholders, members, officers, directors, employees and direct or indirect investors and any of the foregoing Person's agents or other representatives (including, without limitation, those retained in connection with the transactions contemplated by this Agreement) (collectively, the "Indemnitees") from and against any and all actions, causes of action, suits, claims, losses, costs, penalties, fees, liabilities and damages, and expenses in connection therewith (irrespective of whether any such Indemnitee is a party to the action for which indemnification hereunder is sought), and including reasonable attorneys' fees and disbursements (the "Indemnified Liabilities"), incurred by any Indemnitee as a result of, or arising out of, or relating to (a) any misrepresentation or breach of any representation or warranty made by the Company in the Transaction Documents or any other certificate, instrument or document contemplated hereby or thereby, (b) any breach of any covenant, agreement or obligation of the Company contained in the Transaction Documents or any other certificate, instrument or document contemplated hereby or thereby, or (c) any cause of action, suit or claim brought or made against such Indemnitee and arising out of or resulting from the execution, delivery, performance or enforcement of the Transaction Documents or any other certificate, instrument or document contemplated hereby or thereby, other than, in the case of clause (c), with respect to Indemnified Liabilities which directly and primarily result from the fraud, gross negligence or willful misconduct of an Indemnitee. The indemnity in this Section 9 shall not apply to amounts paid in settlement of any claim if such settlement is effected without the prior written consent of the Company, which consent shall not be unreasonably withheld, conditioned or delayed. To the extent that the foregoing undertaking by the Company may be unenforceable for any reason, the Company shall make the maximum contribution to the payment and satisfaction of each of the Indemnified Liabilities which is permissible under applicable law. Payment under this indemnification shall be made within thirty (30) days from the date the Indemnitee makes written request for it; provided, however, that the Indemnitee must undertake to repay any amounts paid to it hereunder if it is ultimately determined, by a final and non-appealable order of a court of competent jurisdiction, that the Indemnitee is not entitled to be indemnified against such Indemnified Liabilities by the Company pursuant to this Agreement. A certificate containing reasonable detail as to the amount of such indemnification submitted to the Company by Investor shall be conclusive evidence, absent manifest error, of the amount due from the Company to Investor. If any action shall be brought against any Indemnitee in respect of which indemnity may be sought pursuant to this Agreement, such Indemnitee shall promptly notify the Company in writing, and the Company shall have the right to assume the defense thereof with counsel of its own choosing reasonably acceptable to the Indemnitee. Any Indemnitee shall have the right to employ separate counsel in any such action and participate in the defense thereof, but the fees and expenses of such counsel shall be at the expense of such Indemnitee, except to the extent that (i) the employment thereof has been specifically authorized by the Company in writing, (ii) the Company has failed after a reasonable period of time to assume such defense and to employ counsel or (iii) in such action there is, in the reasonable opinion of such separate counsel, a material conflict on any material issue between the position of the Company and the position of such Indemnitee, in which case the Company shall be responsible for the reasonable fees and expenses of no more than one such separate counsel.

10. EVENTS OF DEFAULT.

An "Event of Default" shall be deemed to have occurred at any time as any of the following events occurs:

(a) the effectiveness of the Registration Statement registering the Securities lapses for any reason (including, without limitation, the issuance of a stop order or similar order), the Registration Statement or the Prospectus is unavailable for the sale by the Company to the Investor (or the resale by the Investor) of any or all of the Securities to be issued to the Investor under the Transaction Documents (including, without limitation, as a result of any failure of the Company to satisfy all of the requirements for the use of a registration statement on Form S-3 pursuant to the Securities Act for the offering and sale of the Securities contemplated by this Agreement), and any such lapse or unavailability continues for a period of ten (10) consecutive Business Days or for more than an aggregate of thirty (30) Business Days in any 365-day period;

(b) the suspension of the Common Stock from trading or the failure of the Common Stock to be listed on the Principal Market for a period of one (1) Business Day, provided that the Company may not direct the Investor to purchase any shares of Common Stock during any such suspension;

(c) the delisting of the Common Stock from The Nasdaq Capital Market, provided, however, that the Common Stock is not immediately thereafter trading on the New York Stock Exchange, The Nasdaq Global Market, The Nasdaq Global Select Market, the NYSE American, the NYSE Arca, the OTC Bulletin Board or OTC Markets (or nationally recognized successor to any of the foregoing);

(d) the failure for any reason by the Transfer Agent to issue (i) the Initial Purchase Shares and the Initial Commitment Shares to the Investor within two (2) Business Days after the Commencement Date, (ii) the Additional Commitment Shares to the Investor within two (2) Business Days after the date on which the Investor is entitled to receive such Additional Commitment Shares pursuant to Section 5(e) hereof, or (iii) Purchase Shares (other than the Initial Purchase Shares) to the Investor within two (2) Business Days after the Regular Purchase Date, Accelerated Purchase Date or Additional Accelerated Purchase Date, as applicable, on which the Investor is entitled to receive such Purchase Shares;

(e) the Company breaches any representation, warranty, covenant or other term or condition under any Transaction Document if such breach would reasonably be expected to have a Material Adverse Effect and except, in the case of a breach of a covenant which is reasonably curable, only if such breach continues for a period of at least five (5) Business Days;

(f) if any Person commences a proceeding against the Company pursuant to or within the meaning of any Bankruptcy Law;

(g) if the Company, pursuant to or within the meaning of any Bankruptcy Law, (i) commences a voluntary case, (ii) consents to the entry of an order for relief against it in an involuntary case, (iii) consents to the appointment of a Custodian of it or for all or substantially all of its property, or (iv) makes a general assignment for the benefit of its creditors or is generally unable to pay its debts as the same become due;

(h) a court of competent jurisdiction enters an order or decree under any Bankruptcy Law that (i) is for relief against the Company in an involuntary case, (ii) appoints a Custodian of the Company or for all or substantially all of its property, or (iii) orders the liquidation of the Company or any Subsidiary;

(i) if, at any time, the Company is not eligible to transfer its Common Stock electronically as DWAC Shares; or

(j) if, at any time after the Commencement Date, the Exchange Cap is reached (to the extent such Exchange Cap is applicable pursuant to Section 2(g) hereof), and the stockholder approval referred to in Section 2(g)(i) has not been obtained in accordance with the applicable rules of The Nasdaq Stock Market.

In addition to any other rights and remedies under applicable law and this Agreement, so long as an Event of Default has occurred and is continuing, or if any event which, after notice and/or lapse of time, would reasonably be expected to become an Event of Default has occurred and is continuing, the Company shall not deliver to the Investor any Regular Purchase Notice, Accelerated Purchase Notice or Additional Accelerated Purchase Notice.

11. TERMINATION

This Agreement may be terminated only as follows:

(a) If pursuant to or within the meaning of any Bankruptcy Law, the Company commences a voluntary case or any Person commences a proceeding against the Company, a Custodian is appointed for the Company or for all or substantially all of its property, or the Company makes a general assignment for the benefit of its creditors (any of which would be an Event of Default as described in Sections 10(f), 10(g) and 10(h) hereof), this Agreement shall automatically terminate without any liability or payment to the Company (except as set forth below) without further action or notice by any Person.

(b) In the event that the Commencement shall not have occurred on or before November 30, 2020, due to the failure to satisfy the conditions set forth in Sections 7 and 8 above with respect to the Commencement, either the Company or the Investor shall have the option to terminate this Agreement at the close of business on such date or thereafter without liability of any party to any other party (except as set forth below); provided, however, that the right to terminate this Agreement under this Section 11(b) shall not be available to any party if such party is then in breach of any covenant or agreement contained in this Agreement or any representation or warranty of such party contained in this Agreement fails to be true and correct such that the conditions set forth in Section 7(c) or Section 8(d), as applicable, could not then be satisfied.

(c) At any time after the Commencement Date, the Company shall have the option to terminate this Agreement for any reason or for no reason by delivering notice (a "Company Termination Notice") to the Investor electing to terminate this Agreement without any liability whatsoever of any party to any other party under this Agreement (except as set forth below). The Company Termination Notice shall not be effective until one (1) Business Day after it has been received by the Investor.

(d) This Agreement shall automatically terminate on the date that the Company sells and the Investor purchases the full Available Amount as provided herein, without any action or notice on the part of any party and without any liability whatsoever of any party to any other party under this Agreement (except as set forth below).

(e) If, for any reason or for no reason, the full Available Amount has not been purchased in accordance with Section 2 of this Agreement by the Maturity Date, this Agreement shall automatically terminate on the Maturity Date, without any action or notice on the part of any party and without any liability whatsoever of any party to any other party under this Agreement (except as set forth below).

Except as set forth in Sections 11(a) (in respect of an Event of Default under Sections 10(f), 10(g) and 10(h)), 11(d) and 11(e), any termination of this Agreement pursuant to this Section 11 shall be effected by written notice from the Company to the Investor, or the Investor to the Company, as the case may be, setting forth the basis for the termination hereof. The representations and warranties of the Company and the Investor contained in Sections 3 and 4 hereof, the indemnification provisions set forth in Section 9 hereof and the agreements and covenants set forth in Sections 5, 6, 10, 11 and 12 shall survive the Commencement and any termination of this Agreement. No termination of this Agreement shall (i) affect the Company's or the Investor's rights or obligations under (A) this Agreement with respect to pending Regular Purchases, Accelerated Purchases and Additional Accelerated Purchases and the Company and the Investor shall complete their respective obligations with respect to any pending Regular Purchases, Accelerated Purchases and Additional Accelerated Purchases under this Agreement and (B) the Registration Rights Agreement, which shall survive any such termination in accordance with its terms, or (ii) be deemed to release the Company or the Investor from any liability for intentional misrepresentation or willful breach of any of the Transaction Documents.

12. MISCELLANEOUS.

(a) Governing Law; Jurisdiction; Jury Trial. The corporate laws of the State of Delaware shall govern all issues concerning the relative rights of the Company and its stockholders. All other questions concerning the construction, validity, enforcement and interpretation of this Agreement, the Registration Rights Agreement and the other Transaction Documents shall be governed by the internal laws of the State of Illinois, without giving effect to any choice of law or conflict of law provision or rule (whether of the State of Illinois or any other jurisdictions) that would cause the application of the laws of any jurisdictions other than the State of Illinois. Each party hereby irrevocably submits to the exclusive jurisdiction of the state and federal courts sitting in the State of Illinois, County of Cook, for the adjudication of any dispute hereunder or under the other Transaction Documents or in connection herewith or therewith, or with any transaction contemplated hereby or discussed herein, and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of any such court, that such suit, action or proceeding is brought in an inconvenient forum or that the venue of such suit, action or proceeding is improper. Each party hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by mailing a copy thereof to such party at the address for such notices to it under this Agreement and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any manner permitted by law. **EACH PARTY HEREBY IRREVOCABLY WAIVES ANY RIGHT IT MAY HAVE, AND AGREES NOT TO REQUEST, A JURY TRIAL FOR THE ADJUDICATION OF ANY DISPUTE HEREUNDER OR IN CONNECTION HEREWITH OR ARISING OUT OF THIS AGREEMENT OR ANY TRANSACTION CONTEMPLATED HEREBY.**

(b) Counterparts. This Agreement may be executed in two or more identical counterparts, all of which shall be considered one and the same agreement and shall become effective when counterparts have been signed by each party and delivered to the other party; provided that a facsimile signature or signature delivered by e-mail in a ".pdf" format data file, including any electronic signature complying with the U.S. federal ESIGN Act of 2000, e.g., www.docusign.com, www.echosign.adobe.com, etc., shall be considered due execution and shall be binding upon the signatory thereto with the same force and effect as if the signature were an original signature.

(c) Headings. The headings of this Agreement are for convenience of reference and shall not form part of, or affect the interpretation of, this Agreement.

(d) Severability. If any provision of this Agreement shall be invalid or unenforceable in any jurisdiction, such invalidity or unenforceability shall not affect the validity or enforceability of the remainder of this Agreement in that jurisdiction or the validity or enforceability of any provision of this Agreement in any other jurisdiction.

(e) Entire Agreement. The Transaction Documents supersede all other prior oral or written agreements between the Investor, the Company, their affiliates and Persons acting on their behalf with respect to the subject matter thereof, and this Agreement, the other Transaction Documents and the instruments referenced herein contain the entire understanding of the parties with respect to the matters covered herein and therein and, except as specifically set forth herein or therein, neither the Company nor the Investor makes any representation, warranty, covenant or undertaking with respect to such matters. The Company acknowledges and agrees that is has not relied on, in any manner whatsoever, any representations or statements, written or oral, other than as expressly set forth in the Transaction Documents.

(f) Notices. Any notices, consents or other communications required or permitted to be given under the terms of this Agreement must be in writing and will be deemed to have been delivered: (i) upon receipt when delivered personally; (ii) upon receipt when sent by facsimile or email (provided confirmation of transmission is mechanically or electronically generated and kept on file by the sending party); or (iii) one Business Day after deposit with a nationally recognized overnight delivery service, in each case properly addressed to the party to receive the same. The addresses for such communications shall be:

If to the Company:
Moleculin Biotech, Inc.
5300 Memorial Drive, Suite 950
Houston, Texas 77007
Telephone: 713-300-5160
E-mail: jfoster@moleculin.com
Attention: Jonathan P. Foster, CFO

With a copy to (which shall not constitute notice or service of process):
Schiff Hardin LLP
100 N. 18th, Suite 300
Philadelphia, PA 19103
Telephone: (202) 724-6847
Facsimile: (202) 778-6460
E-mail: cpavri@schiffhardin.com
Attention: Cavas S. Pavri, Esq.

If to the Investor:
Lincoln Park Capital Fund, LLC
440 North Wells, Suite 410
Chicago, IL 60654
Telephone: (312) 822-9300
Facsimile: (312) 822-9301
E-mail: jscheinfeld@lpcfunds.com/jcope@lpcfunds.com
Attention: Josh Scheinfeld/Jonathan Cope

With a copy to (which shall not constitute notice or service of process):

Dorsey & Whitney LLP
51 West 52nd Street
New York, NY 10019
Telephone: (212) 415-9214
Facsimile: (212) 953-7201
E-mail: marsico.anthony@dorsey.com
Attention: Anthony J. Marsico, Esq.

If to the Transfer Agent:

vStock Transfer, LLC
18 Lafayette Place
Woodmere, NY 11598
Telephone: (212) 828-8436
Facsimile: (646) 536-3179
Attention: Patricia Sumoza

or at such other address, email address and/or facsimile number and/or to the attention of such other Person as the recipient party has specified by written notice given to each other party three (3) Business Days prior to the effectiveness of such change. Written confirmation of receipt (A) given by the recipient of such notice, consent or other communication, (B) mechanically or electronically generated by the sender's facsimile machine or email account containing the time, date, and recipient facsimile number or email address, as applicable, and an image of the first page of such transmission or (C) provided by a nationally recognized overnight delivery service, shall be rebuttable evidence of personal service, receipt by facsimile or receipt from a nationally recognized overnight delivery service in accordance with clause (i), (ii) or (iii) above, respectively.

(g) Successors and Assigns. This Agreement shall be binding upon and inure to the benefit of the parties and any permitted successors and assigns of the Company. The Company shall not assign this Agreement or any rights or obligations hereunder without the prior written consent of the Investor, including by merger or consolidation. The Investor may not assign its rights or obligations under this Agreement.

(h) No Third Party Beneficiaries. This Agreement is intended for the benefit of the parties hereto and any permitted successors and assigns of the Company and, except as set forth in Section 9, is not for the benefit of, nor may any provision hereof be enforced by, any other Person.

(i) Publicity. The Company shall afford the Investor and its counsel with the opportunity to review and comment upon, shall consult with the Investor and its counsel on the form and substance of, and shall give due consideration to all such comments from the Investor or its counsel on, any press release, SEC filing or any other public disclosure by or on behalf of the Company relating to the Investor, its purchases hereunder or any aspect of the Transaction Documents or the transactions contemplated thereby, not less than 24 hours prior to the issuance, filing or public disclosure thereof. The Investor must be provided with a final version of any such press release, SEC filing or other public disclosure at least 24 hours prior to any release, filing or use by the Company thereof. The Company agrees and acknowledges that its failure to fully comply with this provision constitutes a Material Adverse Effect.

(j) Further Assurances. Each party shall do and perform, or cause to be done and performed, all such further acts and things, and shall execute and deliver all such other agreements, certificates, instruments and documents, as the other party may reasonably request in order to consummate and make effective, as soon as reasonably possible, the Commencement, and to carry out the intent and accomplish the purposes of this Agreement and the consummation of the transactions contemplated hereby.

(k) No Financial Advisor, Placement Agent, Broker or Finder. The Company represents and warrants to the Investor that it has not engaged any financial advisor, placement agent, broker or finder in connection with the transactions contemplated hereby. The Investor represents and warrants to the Company that it has not engaged any financial advisor, placement agent, broker or finder in connection with the transactions contemplated hereby. The Company shall be responsible for the payment of any fees or commissions, if any, of any financial advisor, placement agent, broker or finder relating to or arising out of the transactions contemplated hereby. The Company shall pay, and hold the Investor harmless against, any liability, loss or expense (including, without limitation, reasonable attorneys' fees and out of pocket expenses) arising in connection with any such claim.

(l) No Strict Construction. The language used in this Agreement will be deemed to be the language chosen by the parties to express their mutual intent, and no rules of strict construction will be applied against any party.

(m) Remedies, Other Obligations, Breaches and Injunctive Relief. The Investor's remedies provided in this Agreement, including, without limitation, the Investor's remedies provided in Section 9, shall be cumulative and in addition to all other remedies available to the Investor under this Agreement, at law or in equity (including a decree of specific performance and/or other injunctive relief), no remedy of the Investor contained herein shall be deemed a waiver of compliance with the provisions giving rise to such remedy and nothing herein shall limit the Investor's right to pursue actual damages for any failure by the Company to comply with the terms of this Agreement. The Company acknowledges that a breach by it of its obligations hereunder will cause irreparable harm to the Investor and that the remedy at law for any such breach may be inadequate. The Company therefore agrees that, in the event of any such breach or threatened breach, the Investor shall be entitled, in addition to all other available remedies, to an injunction restraining any breach, without the necessity of showing economic loss and without any bond or other security being required.

(n) Enforcement Costs. If: (i) this Agreement is placed by the Investor in the hands of an attorney for enforcement or is enforced by the Investor through any legal proceeding; (ii) an attorney is retained to represent the Investor in any bankruptcy, reorganization, receivership or other proceedings affecting creditors' rights and involving a claim under this Agreement; or (iii) an attorney is retained to represent the Investor in any other proceedings whatsoever in connection with this Agreement, then the Company shall pay to the Investor, as incurred by the Investor, all reasonable costs and expenses including reasonable attorneys' fees incurred in connection therewith, in addition to all other amounts due hereunder.

(o) Amendment; Waiver; Failure or Indulgence Not Waiver. No provision of this Agreement may be amended other than by a written instrument signed by both parties hereto. No provision of this Agreement may be waived other than in a written instrument signed by the party against whom enforcement of such waiver is sought. No failure or delay in the exercise of any power, right or privilege hereunder shall operate as a waiver thereof, nor shall any single or partial exercise of any such power, right or privilege preclude other or further exercise thereof or of any other right, power or privilege.

*** Signature Page Follows ***

IN WITNESS WHEREOF, the Investor and the Company have caused this Agreement to be duly executed as of the date first written above.

THE COMPANY:

MOLECULIN BIOTECH, INC.

By:/s/ Jonathan P. Foster
Name: Jonathan P. Foster
Title: Chief Financial Officer

INVESTOR:

LINCOLN PARK CAPITAL FUND, LLC
BY: LINCOLN PARK CAPITAL, LLC
BY: ROCKLEDGE CAPITAL CORPORATION

By:/s/ Josh Scheinfeld
Name: Josh Scheinfeld
Title: President

EXHIBITS

Exhibit A	Form of Officer's Certificate
Exhibit B	Form of Resolutions of Board of Directors of the Company
Exhibit C	Form of Secretary's Certificate

EXHIBIT A

FORM OF OFFICER'S CERTIFICATE

This Officer's Certificate ("Certificate") is being delivered pursuant to Section 8(d) of that certain Purchase Agreement dated as of November 11, 2020, ("Purchase Agreement"), by and between **MOLECULIN BIOTECH, INC.**, a Delaware corporation (the "Company"), and **LINCOLN PARK CAPITAL FUND, LLC** (the "Investor"). Terms used herein and not otherwise defined shall have the meanings ascribed to them in the Purchase Agreement.

The undersigned, _____, _____ of the Company, hereby certifies, on behalf of the Company and not in his individual capacity, as follows:

1. I am the _____ of the Company and make the statements contained in this Certificate;

2. The representations and warranties of the Company are true and correct in all material respects (except to the extent that any of such representations and warranties is already qualified as to materiality in Section 4 of the Purchase Agreement, in which case, such representations and warranties are true and correct without further qualification) as of the date when made and as of the Commencement Date as though made at that time (except for representations and warranties that speak as of a specific date, in which case such representations and warranties are true and correct as of such date);

3. The Company has performed, satisfied and complied in all material respects with covenants, agreements and conditions required by the Transaction Documents to be performed, satisfied or complied with by the Company at or prior to the Commencement Date.

4. The Company has not taken any steps, and does not currently expect to take any steps, to seek protection pursuant to any Bankruptcy Law nor does the Company or any of its Subsidiaries have any knowledge or reason to believe that its creditors intend to initiate involuntary bankruptcy or insolvency proceedings. The Company is financially solvent and is generally able to pay its debts as they become due.

IN WITNESS WHEREOF, I have hereunder signed my name on this ___ day of _____.

_____
Name:
Title:

The undersigned as Secretary of **MOLECULIN BIOTECH, INC.**, a Delaware corporation, hereby certifies that _____ is the duly elected, appointed, qualified and acting _____ of _____ and that the signature appearing above is his genuine signature.

_____
Secretary

EXHIBIT B

FORM OF COMPANY RESOLUTIONS
FOR SIGNING PURCHASE AGREEMENT

RESOLVED, that the terms and conditions of, and the transactions contemplated by, the form of Purchase Agreement (the "Purchase Agreement") by and between the Corporation and Lincoln Park Capital Fund, LLC ("Lincoln Park"), providing for the purchase by Lincoln Park of up to Twenty-Two Million Dollars ($22,000,000) of the Corporation's common stock, $0.001 par value per share (the "Common Stock") are hereby authorized and approved in all respects, and that each of the [_____] and [_____] of the Corporation (collectively, the "Authorized Officers") is hereby authorized to execute and deliver the Purchase Agreement, and any other agreements or documents contemplated thereby including, without limitation, a registration rights agreement (the "Registration Rights Agreement") providing for the registration of the shares of the Corporation's Common Stock issuable in respect of the Purchase Agreement on behalf of the Corporation, with such amendments, changes, additions and deletions as any of the Authorized Officers determines to be appropriate, such determination to be conclusively evidenced by the signature of any Authorized Officer thereon; and be it further

RESOLVED, that the terms and provisions of, and the transactions contemplated by, the Registration Rights Agreement by and among the Corporation and Lincoln Park are hereby authorized and approved in all respects, and that each of the Authorized Officers is hereby authorized to execute and deliver the Registration Rights Agreement (pursuant to the terms of the Purchase Agreement), with such amendments, changes, additions and deletions as any of the Authorized Officer determines to be appropriate, such determination to be conclusively evidenced by the signature of any Authorized Officer thereon; and be it further

RESOLVED, that the terms and provisions of, and the transactions described in, the forms of Irrevocable Transfer Agent Instructions and Notice of Effectiveness of Registration Statement (collectively, the "Instructions", and together with the Purchase Agreement, the Registration Rights Agreement and any other agreements, instruments or other documents contemplated by any of the foregoing, the "Transaction Documents") are hereby authorized and approved in all respects and each of the Authorized Officers is hereby authorized to execute and deliver the Instructions on behalf of the Corporation in accordance with the Purchase Agreement, with such amendments, changes, additions and deletions as any of the Authorized Officers determines to be appropriate, such determination to be conclusively evidenced by the signature of an Authorized Officer thereon; and be it further

RESOLVED, that each of the Transaction Documents, the execution and delivery thereof by any of the Authorized Officers for and on behalf of the Corporation, the performance by the Corporation of its obligations thereunder and the consummation of the transactions contemplated thereby are hereby authorized and approved in all respects (including for all purposes of Section 141 of the Delaware General Corporation Law, as amended); and be it further

RESOLVED, that the Corporation is hereby authorized to issue to Lincoln Park the Initial Purchase Shares (as defined in the Purchase Agreement, for aggregate consideration of $2,000,000, and that upon issuance of the Initial Purchase Shares pursuant to the Purchase Agreement, the Initial Purchase Shares shall be duly authorized, validly issued, fully paid and nonassessable with no personal liability attaching to the ownership thereof; and be it further

RESOLVED, that the Corporation is hereby authorized to issue to Lincoln Park 760,194 shares of Common Stock as an initial commitment fee as set forth in the Purchase Agreement (the "Initial Commitment Shares"), and that, upon issuance of the Initial Commitment Shares pursuant to the Purchase Agreement, the Initial Commitment Shares shall be duly authorized, validly issued, fully paid and nonassessable with no personal liability attaching to the ownership thereof; and be it further

RESOLVED, that the Corporation is hereby authorized to issue to Lincoln Park up to 304,077 shares of Common Stock as an additional commitment fee as set forth in the Purchase Agreement (the "Additional Commitment Shares"), and that, upon issuance of the Additional Commitment Shares pursuant to the Purchase Agreement, the Additional Commitment Shares shall be duly authorized, validly issued, fully paid and nonassessable with no personal liability attaching to the ownership thereof; and be it further

RESOLVED, that the Corporation shall reserve 304,077 shares of Common Stock for issuance as Additional Commitment Shares under the Purchase Agreement; and be it further

RESOLVED, that the Corporation is hereby authorized to issue shares of Common Stock upon the purchase of Purchase Shares (other than the Initial Purchase Shares) up to the Available Amount under the Purchase Agreement in accordance with the terms of the Purchase Agreement and that, upon issuance of the Purchase Shares pursuant to the Purchase Agreement, the Purchase Shares will be duly authorized, validly issued, fully paid and nonassessable with no personal liability attaching to the ownership thereof; and be it further

RESOLVED, that the Corporation shall initially reserve 11,422,395 shares of Common Stock for issuance as Purchase Shares (including the Initial Purchase Shares) under the Purchase Agreement; and be it further

RESOLVED, that, without limiting the foregoing, the Authorized Officers are, and each of them hereby is, authorized and directed to proceed on behalf of the Corporation and to take all such steps as deemed necessary or appropriate, with the advice and assistance of counsel, to cause the Corporation to consummate the agreements referred to herein and to perform its obligations under such agreements; and be it further

RESOLVED, that the Authorized Officers be, and each of them with full authority to act without the others hereby is, authorized and directed for and on behalf of the Corporation to take or cause to be taken any and all actions, to execute and deliver any and all agreements, certificates, instructions, requests or other instruments (including any amendments or supplements to any of the documents contemplated by these resolutions), and to do any and all things which, in any such officer's judgment, may be necessary or desirable to effect each of the foregoing resolutions and to carry out the purposes thereof, the taking of any such actions, the execution and delivery of any such certificates, instructions, requests, or instruments, or the doing of any such things to be conclusive evidence of their necessity or desirability; and be it further

RESOLVED, that the Authorized Officers be, and each of them hereby is, authorized and directed to work with counsel to prepare and file with the Securities and Exchange Commission (the "Commission") one or more prospectus supplements (in preliminary and/or final form, as required by applicable securities laws) in connection with the issuance of the Initial Purchase Shares, the Initial Commitment Shares, the Purchase Shares (other than the Initial Purchase Shares) and the Additional Commitment Shares (collectively, the "Securities") (each, a "Prospectus Supplement") to the shelf registration statement (File No. 333-235686), declared effective by the Commission on April 9, 2020 (together with any Prospectus Supplement(s) in connection with the issuance of Securities, the "Registration Statement"); and be it further

RESOLVED, that the issuance by the Company of the Securities as contemplated by the Prospectus Supplement is hereby authorized and approved in all respects and if and when any such Securities consisting of the Company's common stock are so issued, such Securities will be validly issued, fully paid and nonassessable; and be it further

RESOLVED, that the Authorized Officers be, and each of them hereby is, authorized, in the name and on behalf of the Corporation, to retain any legal counsel, accounting firm, investment banking firm, financing advisors or other such consultants, advisors and agents as such officers shall deem necessary, desirable or advisable to perform such services and render such opinions as may be necessary, desirable or advisable in connection with the transactions contemplated by the Purchas Agreement, and to enter into such contracts providing for the retention, compensation, reimbursement of expenses and indemnification of such legal counsel, accounting firm, investment banking firm or other such consultants that the Authorized Officers, individually and with full authority to act without the others, may deem necessary, advisable or proper.

EXHIBIT C

FORM OF SECRETARY'S CERTIFICATE

This Secretary's Certificate ("Certificate") is being delivered pursuant to Section 8(j) of that certain Purchase Agreement dated as of November 11, 2020 ("Purchase Agreement"), by and between **MOLECULIN BIOTECH, INC.**, a Delaware corporation (the "Company") and **LINCOLN PARK CAPITAL FUND, LLC** (the "Investor"), pursuant to which the Company may sell to the Investor up to Twenty-Two Million Dollars ($22,000,000) of the Company's Common Stock, $0.001 par value per share (the "Common Stock"). Terms used herein and not otherwise defined shall have the meanings ascribed to them in the Purchase Agreement.

The undersigned, _____, Secretary of the Company, hereby certifies, on behalf of the Company and not in his individual capacity, as follows:

1. I am the Secretary of the Company and make the statements contained in this Secretary's Certificate.

2. Attached hereto as Exhibit A and Exhibit B are true, correct and complete copies of the Company's bylaws ("Bylaws") and Certificate of Incorporation ("Charter"), in each case, as amended through the date hereof, and no action has been taken by the Company, its directors, officers or stockholders, in contemplation of the filing of any further amendment relating to or affecting the Bylaws or Charter.

3. Attached hereto as Exhibit C are true, correct and complete copies of the resolutions duly adopted by the Board of Directors of the Company on _____, at which a quorum was present and acting throughout. Such resolutions have not been amended, modified or rescinded and remain in full force and effect and such resolutions are the only resolutions adopted by the Company's Board of Directors, or any committee thereof, or the stockholders of the Company relating to or affecting (i) the entering into and performance of the Purchase Agreement, or the issuance, offering and sale of the Securities and (ii) and the performance of the Company of its obligation under the Transaction Documents as contemplated therein.

4. As of the date hereof, the authorized, issued and reserved capital stock of the Company is as set forth on Exhibit D hereto.

IN WITNESS WHEREOF, I have hereunder signed my name on this ___ day of _____.

_____
Secretary

The undersigned as _____ of **MOLECULIN BIOTECH, INC.**, a Delaware corporation, hereby certifies that _____ is the duly elected, appointed, qualified and acting Secretary of **MOLECULIN BIOTECH, INC.**, and that the signature appearing above is his genuine signature.

_____
[TITLE]

Exhibit 10.3

Execution Version

REGISTRATION RIGHTS AGREEMENT

REGISTRATION RIGHTS AGREEMENT (this "Agreement"), dated as of November 11, 2020, by and between **MOLECULIN BIOTECH, INC.**, a Delaware corporation (the "Company"), and **LINCOLN PARK CAPITAL FUND, LLC,** an Illinois limited liability company (together with its permitted assigns, the "Investor"). Capitalized terms used herein and not otherwise defined herein shall have the respective meanings set forth in the Purchase Agreement by and between the parties hereto, dated as of the date hereof (as amended, restated, supplemented or otherwise modified from time to time, the "Purchase Agreement").

WHEREAS:

A. Upon the terms and subject to the conditions of the Purchase Agreement, (i) the Company has agreed to issue to the Investor, and the Investor has agreed to purchase, up to Twenty-Two Million Dollars ($22,000,000) of the Company's common stock, par value $0.001 per share (the "Common Stock"), pursuant to the Purchase Agreement (such shares, the "Purchase Shares"), (ii) the Company has agreed to issue to the Investor upon the execution of the Purchase Agreement such number of shares of Common Stock as set forth in Section 5(e) of the Purchase Agreement (the "Initial Commitment Shares"), and (iii) the Company has agreed to issue to the Investor upon purchases of Purchase Shares pursuant to the Purchase Agreement up to such number of additional shares of Common Stock as set forth in Section 5(e) of the Purchase Agreement (the "Additional Commitment Shares" and, together with the Initial Commitment Shares, the "Commitment Shares"); and

B. To induce the Investor to enter into the Purchase Agreement, the Company has agreed to provide certain registration rights under the Securities Act of 1933, as amended, and the rules and regulations thereunder, or any similar successor statute (collectively, the "Securities Act"), and applicable state securities laws.

NOW, THEREFORE, in consideration of the promises and the mutual covenants contained herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Company and the Investor hereby agree as follows:

1. DEFINITIONS.

As used in this Agreement, the following terms shall have the following meanings:

(a) "Base Prospectus" means the Company's final base prospectus, dated April 9, 2020, a preliminary form of which is included in the Registration Statement (defined below), including the documents and information incorporated by reference therein.

(b) "Initial Prospectus Supplement" means the prospectus supplement of the Company dated November 12, 2020 relating to the Securities, including the accompanying Base Prospectus, to be prepared and filed by the Company with the SEC pursuant to Rule 424(b) under the Securities Act and in accordance herewith, together with all documents and information incorporated therein by reference.

(c) "Prospectus" means the Base Prospectus, as supplemented by any Prospectus Supplement (including the Initial Prospectus Supplement), including the documents and information incorporated by reference therein.

(d) "Prospectus Supplement" means any prospectus supplement to the Base Prospectus (including the Initial Prospectus Supplement) filed with the SEC pursuant to Rule 424(b) under the Securities Act in connection with the transactions contemplated by this Agreement, including the documents and information incorporated by reference therein.

(e) "Register," "Registered," and "Registration" refer to a registration effected by preparing and filing one or more registration statements of the Company in compliance with the Securities Act and pursuant to Rule 415 under the Securities Act or any successor rule providing for offering securities on a continuous basis ("Rule 415"), and the declaration or ordering of effectiveness of such registration statement(s) by the SEC.

(f) "Registrable Securities" means the Purchase Shares that may from time to time be issued or issuable to the Investor upon purchases of the Available Amount under the Purchase Agreement (without regard to any limitation or restriction on purchases), the Commitment Shares issued or issuable to the Investor, and any shares of capital stock issued or issuable with respect to the Purchase Shares, the Commitment Shares or the Purchase Agreement as a result of any stock split, stock dividend, recapitalization, exchange or similar event, without regard to any limitation on purchases under the Purchase Agreement.

(g) "Registration Statement" means the effective registration statement on Form S-3 (Commission File No. 333-235686) filed by the Company with the SEC pursuant to the Securities Act for the registration of shares of its Common Stock, including the Securities, and certain other securities of the Company, as such Registration Statement has been or may be amended and supplemented from time to time, including the financial statements, exhibits and schedules thereto, and all other documents filed as part thereof or incorporated by reference therein, and including all information deemed to be a part thereof at the time of effectiveness pursuant to Rule 430B of the Securities Act, including (i) any registration statement filed by the Company pursuant to Rule 462(b) under the Securities Act in connection with the transactions contemplated by the Transaction Documents and (ii) any comparable successor registration statement filed by the Company with the SEC pursuant to the Securities Act for the registration of shares of its Common Stock, including the Securities.

2. REGISTRATION.

(a) Initial Prospectus Supplement. The Company agrees that it shall, on the date hereof, file with the SEC the Initial Prospectus Supplement pursuant to Rule 424(b) under the Securities Act, in the form agreed upon by the Investor prior to such filing, specifically relating to the transactions contemplated by, and describing the material terms and conditions of, the Transaction Documents, containing information previously omitted at the time of effectiveness of the Registration Statement in reliance on Rule 430B under the Securities Act, and disclosing all information relating to the transactions contemplated by the Transaction Documents required to be disclosed in the Registration Statement and the Prospectus as of the date of the Initial Prospectus Supplement, including, without limitation, information required to be disclosed in the section captioned "Plan of Distribution" in the Prospectus. The Investor acknowledges that it will be identified in the Initial Prospectus Supplement as an underwriter within the meaning of Section 2(a)(11) of the Securities Act. The Company shall permit the Investor and its counsel to review and comment upon a substantially complete pre-filing draft of the Initial Prospectus Supplement at least one (1) Business Day prior to the date of its filing with the SEC, the Company shall give due consideration to all such comments, and the Company shall not file the Initial Prospectus Supplement with the SEC in a form to which the Investor reasonably objects. The Investor shall use its reasonable best efforts to comment upon such substantially complete pre-filing draft of the Initial Prospectus Supplement within one (1) Business Day from the date the Investor receives such substantially complete pre-filing draft thereof from the Company. The Investor shall furnish to the Company such information regarding itself, the Securities held by it and the intended method of distribution thereof, including any arrangement between the Investor and any other Person relating to the sale or distribution of the Securities, as shall be reasonably requested by the Company in connection with the preparation and filing of the Initial Prospectus Supplement, and shall otherwise cooperate with the Company as reasonably requested by the Company in connection with the preparation and filing of the Initial Prospectus Supplement with the SEC.

(b) Effective Registration Statement; Current Prospectus; Securities Law Compliance. The Company shall use its reasonable best efforts to keep the Registration Statement effective pursuant to Rule 415 promulgated under the Securities Act, and to keep the Registration Statement and the Prospectus current and available for issuances and sales of all of the Securities by the Company to the Investor, and for the resale by the Investor, at all times until the earliest of (i) the date on which the Investor shall have sold all the Securities and no Available Amount remains under the Purchase Agreement, (ii) thirty (30) days following the Maturity Date and (iii) ninety (90) days following the termination of the Purchase Agreement in accordance with Section 11 of the Purchase Agreement (the "Registration Period"). Without limiting the generality of the foregoing, during the Registration Period, the Company shall (a) take all action necessary to continue to be required to file reports with the Commission pursuant to Section 13 or 15(d) of the Exchange Act, shall comply with its reporting and filing obligations under the Exchange Act, and shall not take any action or file any document (whether or not permitted by the Exchange Act) to terminate or suspend its reporting and filing obligations under the Exchange Act and (b) prepare and file with the SEC, at the Company's expense, such amendments (including, without limitation, post-effective amendments) to the Registration Statement and such Prospectus Supplements pursuant to Rule 424(b) under the Securities Act, in each case, as may be necessary to keep the Registration Statement effective pursuant to Rule 415 promulgated under the Securities Act, and to keep the Registration Statement and the Prospectus current and available for issuances and sales of all of the Securities by the Company to the Investor, and for the resale of all of the Securities by the Investor, at all times during the Registration Period (it being hereby acknowledged and agreed that the Company shall prepare and file with the SEC, at the Company's expense, immediately prior to the third (3rd) anniversary of the initial effective date of the Registration Statement (the "Renewal Date"), a new Registration Statement relating to the Securities, in a form satisfactory to the Investor and its counsel, and the Company shall use its reasonable best efforts to cause such Registration Statement to be declared effective within 180 days after the Renewal Date). The Investor shall furnish to the Company such information regarding itself, the Securities held by it and the intended method of distribution thereof as shall be reasonably requested by the Company in connection with the preparation and filing of any such amendment to the Registration Statement (or new Registration Statement) or any such Prospectus Supplement, and shall otherwise cooperate with the Company as reasonably requested by the Company in connection with the preparation and filing of any such amendment to the Registration Statement (or new Registration Statement) or any such Prospectus Supplement. The Company shall comply with all applicable federal, state and foreign securities laws in connection with the offer, issuance and sale of the Securities contemplated by the Transaction Documents.

3. **RELATED OBLIGATIONS**.

With respect to the Registration Statement and the Prospectus, the Company shall use its reasonable best efforts to effect the registration of the Registrable Securities in accordance with the intended method of disposition thereof and, pursuant thereto, the Company shall have the following obligations:

(a) Stop Orders. The Company shall advise the Investor promptly (but in no event later than 24 hours) and shall confirm such advice in writing: (i) of the Company's receipt of notice of any request by the SEC for amendment of or a supplement to the Registration Statement, the Prospectus, any Prospectus Supplement or for any additional information; (ii) of the Company's receipt of notice of the issuance by the SEC of any stop order suspending the effectiveness of the Registration Statement or prohibiting or suspending the use of the Prospectus or any Prospectus Supplement, or of the Company's receipt of any notification of the suspension of qualification of the Securities for offering or sale in any jurisdiction or the initiation or contemplated initiation of any proceeding for such purpose; and (iii) of the Company becoming aware of the happening of any event, which makes any statement of a material fact made in the Registration Statement, the Prospectus or any Prospectus Supplement untrue or which requires the making of any additions to or changes to the statements then made in the Registration Statement, the Prospectus or any Prospectus Supplement in order to state a material fact required by the Securities Act to be stated therein or necessary in order to make the statements then made therein (in the case of the Prospectus or any Prospectus Supplement, in light of the circumstances under which they were made) not misleading, or of the necessity to amend the Registration Statement or supplement the Prospectus or any Prospectus Supplement to comply with the Securities Act or any other applicable laws. The Company shall not be required to disclose to the Investor the substance or specific reasons of any of the events set forth in clauses (i) through (iii) of the immediately preceding sentence, but rather, shall only be required to disclose that the event has occurred. The Company shall not deliver to the Investor any Regular Purchase Notice, Accelerated Purchase Notice or Additional Accelerated Purchase Notice, and the Investor shall not be obligated to purchase any shares of Common Stock under the Purchase Agreement, during the continuation or pendency of any of the foregoing events; provided, however, that the foregoing shall not affect the Company's or the Investor's rights or obligations under the Purchase Agreement with respect to any then pending Regular Purchases, Accelerated Purchases and Additional Accelerated Purchases, and the Company and the Investor shall complete their respective obligations with respect to any such pending Regular Purchases, Accelerated Purchases and Additional Accelerated Purchases under the Purchase Agreement. If at any time the SEC shall issue any stop order suspending the effectiveness of the Registration Statement or prohibiting or suspending the use of the Prospectus or any Prospectus Supplement, the Company shall use its reasonable best efforts to obtain the withdrawal of such order at the earliest possible time. The Company shall furnish to the Investor, without charge, a copy of any correspondence from the SEC or the staff of the SEC to the Company or its representatives relating to the Registration Statement or the Prospectus, as the case may be.

(b) Investor Review. Except as provided in this Agreement and other than periodic and current reports required to be filed pursuant to the Exchange Act, the Company shall not file with the SEC any amendment to the Registration Statement or any supplement to the Prospectus that refers to the Investor, the Transaction Documents or the transactions contemplated thereby (including, without limitation, any Prospectus Supplement filed in connection with the transactions contemplated by the Transaction Documents), in each case with respect to which (a) the Investor shall not previously have been advised and afforded the opportunity to review and comment thereon at least one (1) Business Day prior to filing with the SEC, as the case may be, (b) the Company shall not have given due consideration to any comments thereon received from the Investor or its counsel, or (c) the Investor shall reasonably object, unless the Company reasonably has determined that it is necessary to amend the Registration Statement or make any supplement to the Prospectus to comply with the Securities Act or any other applicable law or regulation, in which case the Company shall promptly (but in no event later than 24 hours) so inform the Investor, the Investor shall be provided with a reasonable opportunity to review and comment upon any disclosure referring to the Investor, the Transaction Documents or the transactions contemplated thereby, as applicable, and the Company shall expeditiously furnish to the Investor a copy thereof. In addition, for so long as, in the reasonable opinion of counsel for the Investor, the Prospectus is required to be delivered in connection with any acquisition or sale of Securities by the Investor, the Company shall not file any Prospectus Supplement with respect to the Securities without furnishing to the Investor as many copies of such Prospectus Supplement, together with the Prospectus, as the Investor may reasonably request.

(c) Prospectus Delivery. The Company consents to the use of the Prospectus (and of each Prospectus Supplement thereto) in accordance with the provisions of the Securities Act and with the securities or "blue sky" laws of the jurisdictions in which the Securities may be sold by the Investor, in connection with the offering and sale of the Securities and for such period of time thereafter as the Prospectus is required by the Securities Act to be delivered in connection with sales of the Securities. The Company will make available to the Investor upon request, and thereafter from time to time will furnish to the Investor, as many copies of the Prospectus (and each Prospectus Supplement thereto) as the Investor may reasonably request for the purposes contemplated by the Securities Act within the time during which the Prospectus is required by the Securities Act to be delivered in connection with sales of the Securities. If during such period of time any event shall occur that in the reasonable judgment of the Company and its counsel, or in the reasonable judgment of the Investor and its counsel, is required to be set forth in the Registration Statement, the Prospectus or any Prospectus Supplement or should be set forth therein in order to make the statements made therein (in the case of the Prospectus or any Prospectus Supplement, in light of the circumstances under which they were made) not misleading, or if in the reasonable judgment of the Company and its counsel, or in the reasonable judgment of the Investor and its counsel, it is otherwise necessary to amend the Registration Statement or supplement the Prospectus or any Prospectus Supplement to comply with the Securities Act or any other applicable law or regulation, the Company shall forthwith prepare and, subject to Section 3(b) above, file with the SEC an appropriate amendment to the Registration Statement or an appropriate Prospectus Supplement and in each case shall expeditiously furnish to the Investor, at the Company's expense, such amendment to the Registration Statement or such Prospectus Supplement, as applicable, as may be necessary to reflect any such change or to effect such compliance. The Company shall have no obligation to separately advise the Investor of, or deliver copies to the Investor of, the SEC Documents, all of which the Investor shall be deemed to have notice of.

(i) Delivery of Shares. The Company shall cooperate with the Investor to facilitate the timely preparation and delivery of DWAC Shares (not bearing any restrictive legend) representing the Registrable Securities to be offered pursuant to the Registration Statement and the Prospectus and enable such DWAC Shares to be in such denominations or amounts as the Investor may reasonably request and registered in such names as the Investor may request

(j) Transfer Agent. The Company shall at all times maintain the services of the Transfer Agent with respect to its Common Stock.

(k) Approvals. The Company shall use its reasonable best efforts to cause the Registrable Securities covered by any Registration Statement to be Registered with or approved by such other governmental agencies or authorities in the United States as may be necessary to consummate the disposition of such Registrable Securities.

(l) Confirmation of Effectiveness. If reasonably requested in writing by the Investor at any time, the Company shall deliver to the Investor a written confirmation of whether or not the effectiveness of such Registration Statement has lapsed at any time for any reason (including, without limitation, the issuance of a stop order) and whether or not the Registration Statement is currently effective and available to the Company for sale of all of the Registrable Securities..

(m) Further Assurances. The Company agrees to take all other reasonable actions as necessary and reasonably requested in writing by the Investor to expedite and facilitate disposition by the Investor of Registrable Securities pursuant to any Registration Statement.

(n) Transfer Agent Instructions. On or before the date the Initial Prospectus Supplement is filed with the SEC, the Company shall issue to the Transfer Agent the Irrevocable Transfer Agent Instructions in the form agreed to prior to the date hereof, and on the date any Registration Statement which includes the Registrable Securities is ordered effective by the SEC, the Company shall deliver, and shall cause legal counsel for the Company to deliver, to the Transfer Agent for such Registrable Securities (with copies to the Investor) confirmation that such Registration Statement has been declared effective by the SEC. Thereafter, if requested by the Investor at any time, the Company shall deliver to the Investor a written confirmation of whether or not the effectiveness of such Registration Statement has lapsed at any time for any reason (including, without limitation, the issuance of a stop order) and whether or not the Registration Statement is current and available to the Investor for sale of all of the Registrable Securities.

4. OBLIGATIONS OF THE INVESTOR.

(a) Investor Information. The Investor has furnished to the Company in Exhibit A hereto such information regarding itself, the Registrable Securities held by it, the Registrable Securities held by it and the intended method of disposition thereof, including any arrangement between the Investor and any other Person relating to the sale or distribution of the Securities, as required to effect the registration of such Registrable Securities and shall execute such documents in connection with such registration as the Company may reasonably request. The Company shall notify the Investor in writing of any other information the Company reasonably requires from the Investor in connection with any Registration Statement hereunder. The Investor will as promptly as practicable notify the Company of any material change in the information set forth in Exhibit A, other than changes in its ownership of Common Stock.

(b) Suspension of Sales. The Investor agrees that, upon receipt of any notice from the Company of the existence of any suspension or stop order as set forth in Section 3(a), the Investor will immediately discontinue disposition of Registrable Securities pursuant to any Registration Statement covering such Registrable Securities until the Investor's receipt of the copies of a notice regarding the resolution or withdrawal of the suspension or stop order as contemplated by Section 3(a). Notwithstanding anything to the contrary, the Company shall cause its transfer agent to promptly deliver to the Investor DWAC Shares without any restrictive legend in accordance with the terms of the Purchase Agreement in connection with any sale of Registrable Securities with respect to which the Investor has entered into a contract for sale prior to the Investor’s receipt of a notice from the Company of the happening of any event of the kind described in Section 3(a) and for which the Investor has not yet settled.

(c) Investor Cooperation. The Investor agrees to cooperate with the Company as reasonably requested by the Company in connection with the preparation and filing of any amendments and supplements to any Registration Statement or the Prospectus hereunder.

5. EXPENSES OF REGISTRATION.

All reasonable expenses of the Company, other than sales or brokerage commissions and fees and disbursements of counsel for, and other expenses of, the Investor, incurred in connection with registrations, filings or qualifications pursuant to Sections 2 and 3, including, without limitation, all registration, listing and qualifications fees, printers and accounting fees, and fees and disbursements of counsel for the Company, shall be paid by the Company.

6. INDEMNIFICATION.

(a) To the fullest extent permitted by law, the Company will, and hereby does, indemnify, hold harmless and defend the Investor, each Person, if any, who controls the Investor, the members, the directors, officers, partners, employees, agents, representatives of the Investor and each Person, if any, who controls the Investor within the meaning of the Securities Act or the Securities Exchange Act of 1934, as amended (the "Exchange Act") (each, an "Indemnified Person"), against any losses, claims, damages, liabilities, judgments, fines, penalties, charges, costs, attorneys' fees, amounts paid in settlement or expenses, joint or several, (collectively, "Claims") incurred in investigating, preparing or defending any action, claim, suit, inquiry, proceeding, investigation or appeal taken from the foregoing by or before any court or governmental, administrative or other regulatory agency, body or the SEC, whether pending or threatened, whether or not an indemnified party is or may be a party thereto ("Indemnified Damages"), to which any of them may become subject insofar as such Claims (or actions or proceedings, whether commenced or threatened, in respect thereof) arise out of or are based upon: (i) any untrue statement or alleged untrue statement of a material fact contained, or incorporated by reference, in the Registration Statement or any amendment thereto or any omission or alleged omission to state therein, or in any document incorporated by reference therein, a material fact required to be stated therein or necessary to make the statements therein not misleading, (ii) any untrue statement or alleged untrue statement of a material fact contained, or incorporated by reference, in the Prospectus or any Prospectus Supplement, or any omission or alleged omission to state therein, or in any document incorporated by reference therein, a material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances under which they were made, not misleading, or (iii) any violation or alleged violation by the Company or any of its Subsidiaries, affiliates, officers, directors or employees, of the Securities Act, the Exchange Act, state securities or "Blue Sky" laws, or the rules and regulations of the Principal Market relating to the offer or sale of the Registrable Securities pursuant to the Registration Statement or the Prospectus (the matters in the foregoing clauses (i) through (iii) being, collectively, "Violations"). The Company shall reimburse each Indemnified Person promptly as such expenses are incurred and are due and payable, for any reasonable out-of-pocket legal fees or other reasonable expenses incurred by them in connection with investigating or defending any such Claim. Notwithstanding anything to the contrary contained herein, the indemnification agreement contained in this Section 6(a): (A) shall not apply to a Claim by an Indemnified Person to the extent, but only to the extent, arising out of or based upon any untrue statement or alleged untrue statement or omission or alleged omission made in reliance upon and in conformity with written information furnished to the Company by or on behalf of the Investor expressly for use in any Prospectus Supplement (it being hereby acknowledged and agreed that the written information set forth on **Exhibit A** attached hereto, as the same may be updated from time to time in writing by the Investor, is the only written information furnished to the Company by or on behalf of the Investor expressly for use in any Prospectus Supplement), if the Prospectus was timely made available by the Company to the Investor pursuant to Section 3(c); (B) shall not be available to the extent such Claim is based on a failure of the Investor to deliver, or to cause to be delivered, the Prospectus made available by the Company, if such Prospectus was theretofore made available by the Company pursuant to Section 3(c), and if delivery of the Prospectus would have cured the defect giving rise to such Claim; and (C) shall not apply to amounts paid in settlement of any Claim if such settlement is effected without the prior written consent of the Company, which consent shall not be unreasonably withheld, delayed or conditioned. Such indemnity shall remain in full force and effect regardless of any investigation made by or on behalf of the Indemnified Person and shall survive the transfer of the Registrable Securities by the Investor pursuant to Section 8.

(b) In connection with any Prospectus Supplement, the Investor agrees to indemnify, hold harmless and defend, to the same extent and in the same manner as is set forth in Section 6(a), the Company, each of its directors, each of its officers who signed the Registration Statement, and each Person, if any, who controls the Company within the meaning of the Securities Act or the Exchange Act (collectively and together with an Indemnified Person, an "Indemnified Party"), against any Claim or Indemnified Damages to which any of them may become subject, under the Securities Act, the Exchange Act or otherwise, insofar as such Claim or Indemnified Damages arise out of or are based upon any Violation, in each case to the extent, and only to the extent, that such Violation occurs in reliance upon and in conformity with written information about the Investor set forth on **Exhibit A** attached hereto (as the same may be updated from time to time in writing by the Investor) and furnished to the Company by the Investor expressly for inclusion any Prospectus Supplement; and, subject to Section 6(d), the Investor will reimburse any reasonable out-of-pocket legal or other expenses reasonably incurred by them in connection with investigating or defending any such Claim; provided, however, that the indemnity agreement contained in this Section 6(b) and the agreement with respect to contribution contained in Section 7 shall not apply to amounts paid in settlement of any Claim if such settlement is effected without the prior written consent of the Investor, which consent shall not be unreasonably withheld, delayed or conditioned; and provided, further, that the Investor shall be liable under this Section 6(b) for only that amount of a Claim or Indemnified Damages as does not exceed the net proceeds to the Investor as a result of the sale of Registrable Securities pursuant to such Registration Statement. Such indemnity shall remain in full force and effect regardless of any investigation made by or on behalf of such Indemnified Party and shall survive the transfer of the Registrable Securities by the Investor pursuant to Section 8.

(c) Promptly after receipt by an Indemnified Person or Indemnified Party under this Section 6 of notice of the commencement of any action or proceeding (including any governmental action or proceeding) involving a Claim, such Indemnified Person or Indemnified Party shall, if a Claim in respect thereof is to be made against any indemnifying party under this Section 6, deliver to the indemnifying party a written notice of the commencement thereof, and the indemnifying party shall have the right to participate in, and, to the extent the indemnifying party so desires, jointly with any other indemnifying party similarly noticed, to assume control of the defense thereof with counsel mutually satisfactory to the indemnifying party and the Indemnified Person or the Indemnified Party, as the case may be; provided, however, that an Indemnified Person or Indemnified Party shall have the right to retain its own counsel with the fees and expenses to be paid by the indemnifying party, if, in the reasonable opinion of counsel retained by the indemnifying party, the representation by such counsel of the Indemnified Person or Indemnified Party and the indemnifying party would be inappropriate due to actual or potential differing interests between such Indemnified Person or Indemnified Party and any other party represented by such counsel in such proceeding. The Indemnified Party or Indemnified Person shall cooperate with the indemnifying party in connection with any negotiation or defense of any such action or claim by the indemnifying party and shall furnish to the indemnifying party all information reasonably available to the Indemnified Party or Indemnified Person which relates to such action or claim. The indemnifying party shall keep the Indemnified Party or Indemnified Person fully apprised as to the status of the defense or any settlement negotiations with respect thereto. No indemnifying party shall be liable for any settlement of any action, claim or proceeding effected without its written consent, provided, however, that the indemnifying party shall not unreasonably withhold, delay or condition its consent. No indemnifying party shall, without the consent of the Indemnified Party or Indemnified Person, consent to entry of any judgment or enter into any settlement or other compromise which does not include as an unconditional term thereof the giving by the claimant or plaintiff to such Indemnified Party or Indemnified Person of a release from all liability in respect to such claim or litigation. Following indemnification as provided for hereunder, the indemnifying party shall be subrogated to all rights of the Indemnified Party or Indemnified Person with respect to all third parties, firms or corporations relating to the matter for which indemnification has been made. The failure to deliver written notice to the indemnifying party within a reasonable time of the commencement of any such action shall not relieve such indemnifying party of any liability to the Indemnified Person or Indemnified Party under this Section 6, except to the extent that the indemnifying party is prejudiced in its ability to defend such action.

(d) The indemnification required by this Section 6 shall be made by periodic payments of the amount thereof during the course of the investigation or defense, as and when bills are received or Indemnified Damages are incurred. Any Person receiving a payment pursuant to this Section 6 which person is later determined to not be entitled to such payment shall return such payment to the person making it.

(e) The indemnity agreements contained herein shall be in addition to (i) any cause of action or similar right of the Indemnified Party or Indemnified Person against the indemnifying party or others, and (ii) any liabilities the indemnifying party may be subject to pursuant to the law.

7. CONTRIBUTION.

To the extent any indemnification by an indemnifying party is prohibited or limited by law, the indemnifying party agrees to make the maximum contribution with respect to any amounts for which it would otherwise be liable under Section 6 to the fullest extent permitted by law; provided, however, that: (i) no seller of Registrable Securities guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) shall be entitled to contribution from any seller of Registrable Securities who was not guilty of fraudulent misrepresentation; and (ii) contribution by any seller of Registrable Securities shall be limited in amount to the net amount of proceeds received by such seller from the sale of such Registrable Securities.

8. ASSIGNMENT OF REGISTRATION RIGHTS.

The Company shall not assign this Agreement or any rights or obligations hereunder without the prior written consent of the Investor; provided, however, that any transaction, whether by merger, reorganization, restructuring, consolidation, financing or otherwise, whereby the Company remains the surviving entity immediately after such transaction shall not be deemed an assignment. The Investor may not assign its rights under this Agreement without the prior written consent of the Company, other than to an affiliate of the Investor controlled by Jonathan Cope or Josh Scheinfeld, in which case the assignee must agree in writing to be bound by the terms and conditions of this Agreement.

9. AMENDMENT OR WAIVER OF REGISTRATION RIGHTS.

No provision of this Agreement may be (i) amended other than by a written instrument signed by both parties hereto or (ii) waived other than in a written instrument signed by the party against whom enforcement of such waiver is sought. Failure of any party to exercise any right or remedy under this Agreement or otherwise, or delay by a party in exercising such right or remedy, shall not operate as a waiver thereof.

10. MISCELLANEOUS.

(a) Holder. A Person is deemed to be a holder of Registrable Securities whenever such Person owns or is deemed to own of record such Registrable Securities. If the Company receives conflicting instructions, notices or elections from two or more Persons with respect to the same Registrable Securities, the Company shall act upon the basis of instructions, notice or election received from the registered owner of such Registrable Securities.

(b) Notices. Any notices, consents, waivers or other communications required or permitted to be given under the terms of this Agreement must be in writing and will be deemed to have been delivered: (i) upon receipt, when delivered personally; (ii) upon receipt, when sent by facsimile or email (provided confirmation of transmission is mechanically or electronically generated and kept on file by the sending party); or (iii) one (1) Business Day after deposit with a nationally recognized overnight delivery service, in each case properly addressed to the party to receive the same. The addresses for such communications shall be:

If to the Company:

Moleculin Biotech, Inc.
5300 Memorial Drive, Suite 950
Houston, Texas 77007
Telephone: 713-300-5160
E-mail: jfoster@moleculin.com
Attention: Jonathan P. Foster, CFO

With a copy to (which shall not constitute notice or service of process):

Schiff Hardin LLP
100 N. 18th, Suite 300
Philadelphia, PA 19103
Telephone: (202) 724-6847
Facsimile: (202) 778-6460
E-mail: cpavri@schiffhardin.com
Attention: Cavas S. Pavri, Esq.

If to the Investor:

Lincoln Park Capital Fund, LLC
440 North Wells, Suite 410
Chicago, IL 60654
Telephone: (312) 822-9300
Facsimile: (312) 822-9301
E-mail: jscheinfeld@lpcfunds.com/jcope@lpcfunds.com
Attention: Josh Scheinfeld/Jonathan Cope

With a copy to (which shall not constitute notice or service of process):

Dorsey & Whitney LLP
51 West 52nd Street
New York, NY 10019
Telephone: (212) 415-9214
Facsimile: (212) 953-7201
E-mail: marsico.anthony@dorsey.com
Attention: Anthony J. Marsico, Esq.

or at such other address, email address and/or facsimile number and/or to the attention of such other person as the recipient party has specified by written notice given to each other party three (3) Business Days prior to the effectiveness of such change. Written confirmation of receipt (A) given by the recipient of such notice, consent, waiver or other communication, (B) mechanically or electronically generated by the sender's facsimile machine or email account containing the time, date, recipient facsimile number or email address, as applicable, and an image of the first page of such transmission or (C) provided by a nationally recognized overnight delivery service, shall be rebuttable evidence of personal service, receipt by facsimile or receipt from a nationally recognized overnight delivery service in accordance with clause (i), (ii) or (iii) above, respectively.

(c) Governing Law. The corporate laws of the State of Delaware shall govern all issues concerning the relative rights of the Company and its stockholders. All other questions concerning the construction, validity, enforcement and interpretation of this Agreement shall be governed by the internal laws of the State of Illinois, without giving effect to any choice of law or conflict of law provision or rule (whether of the State of Illinois or any other jurisdictions) that would cause the application of the laws of any jurisdictions other than the State of Illinois. Each party hereby irrevocably submits to the exclusive jurisdiction of the state and federal courts sitting the State of Illinois, County of Cook, for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein, and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of any such court, that such suit, action or proceeding is brought in an inconvenient forum or that the venue of such suit, action or proceeding is improper. Each party hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by mailing a copy thereof to such party at the address for such notices to it under this Agreement and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any manner permitted by law. If any provision of this Agreement shall be invalid or unenforceable in any jurisdiction, such invalidity or unenforceability shall not affect the validity or enforceability of the remainder of this Agreement in that jurisdiction or the validity or enforceability of any provision of this Agreement in any other jurisdiction. **EACH PARTY HEREBY IRREVOCABLY WAIVES ANY RIGHT IT MAY HAVE, AND AGREES NOT TO REQUEST, A JURY TRIAL FOR THE ADJUDICATION OF ANY DISPUTE HEREUNDER OR IN CONNECTION HEREWITH OR ARISING OUT OF THIS AGREEMENT OR ANY TRANSACTION CONTEMPLATED HEREBY.**

(d) Integration. This Agreement, the Purchase Agreement and the other Transaction Documents constitute the entire understanding among the parties hereto with respect to the subject matter hereof and thereof. There are no restrictions, promises, warranties or undertakings, other than those set forth or referred to herein and therein. This Agreement, the Purchase Agreement and the other Transaction Documents supersede all other prior oral or written agreements between the Investor, the Company, their affiliates and persons acting on their behalf with respect to the subject matter hereof and thereof.

(e) No Third Party Beneficiaries. This Agreement is intended for the benefit of the parties hereto and any permitted successors and assigns of the Company and, except as set forth in Section 9, is not for the benefit of, nor may any provision hereof be enforced by, any other Person.

(f) Headings. The headings in this Agreement are for convenience of reference only and shall not limit or otherwise affect the meaning hereof.

(g) Counterparts. This Agreement may be executed in two or more identical counterparts, all of which shall be considered one and the same agreement and shall become effective when counterparts have been signed by each party and delivered to the other party; provided that a facsimile signature or signature delivered by e-mail in a ".pdf" format data file, including any electronic signature complying with the U.S. federal ESIGN Act of 2000, e.g., www.docusign.com, www.echosign.adobe.com, etc., shall be considered due execution and shall be binding upon the signatory thereto with the same force and effect as if the signature were an original signature.

(h) Further Assurances. Each party shall do and perform, or cause to be done and performed, all such further acts and things, and shall execute and deliver all such other agreements, certificates, instruments and documents, as the other party may reasonably request in order to carry out the intent and accomplish the purposes of this Agreement and the consummation of the transactions contemplated hereby.

(i) No Strict Construction. The language used in this Agreement will be deemed to be the language chosen by the parties to express their mutual intent and no rules of strict construction will be applied against any party.

*** Signature Page Follows ***

IN WITNESS WHEREOF, the parties have caused this Registration Rights Agreement to be duly executed as of day and year first above written.

THE COMPANY:

MOLECULIN BIOTECH, INC.

By: /s/ Jonathan P. Foster
Name: Jonathan P. Foster
Title: Chief Financial Officer

INVESTOR:

LINCOLN PARK CAPITAL FUND, LLC
BY: LINCOLN PARK CAPITAL, LLC
BY: ROCKLEDGE CAPITAL CORPORATION

By: /s/ Josh Scheinfeld
Name: Josh Scheinfeld
Title: President

EXHIBIT A

Information About The Investor Furnished To The Company By The Investor Expressly For Use In Connection With Each Registration Statement and Prospectus Supplement

Information With Respect to Lincoln Park Capital

As of the date of the Purchase Agreement, Lincoln Park Capital Fund, LLC, beneficially owned 4,759,611 shares of our common stock. Josh Scheinfeld and Jonathan Cope, the Managing Members of Lincoln Park Capital, LLC, the manager of Lincoln Park Capital Fund, LLC, are deemed to be beneficial owners of all of the shares of common stock owned by Lincoln Park Capital Fund, LLC. Messrs. Cope and Scheinfeld have shared voting and investment power over the shares being offered under the prospectus supplement filed with the SEC in connection with the transactions contemplated under the Purchase Agreement. Lincoln Park Capital, LLC is not a licensed broker dealer or an affiliate of a licensed broker dealer.

Exhibit 31.1

OFFICER'S CERTIFICATION PURSUANT TO
SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Walter V. Klemp, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Moleculin Biotech, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

November 12, 2020

By: /s/ Walter V. Klemp
Walter V. Klemp
Chief Executive Officer

(Principal Executive Officer)

Exhibit 31.2

OFFICER'S CERTIFICATION PURSUANT TO
SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Jonathan P. Foster, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Moleculin Biotech, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

November 12, 2020

By: /s/ Jonathan P. Foster
Jonathan P. Foster

Executive Vice President and Chief Financial Officer
(Principal Financial Officer and Principal Accounting Officer)

Exhibit 32.1

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report on Form 10-Q for the quarter ended September 30, 2020 of Moleculin Biotech, Inc. (the "Company") as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Walter Klemp, Chief Executive Officer of the Company, hereby certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

- The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C 78m or 78o(d)); and

- The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: November 12, 2020

By: /s/ Walter V. Klemp
Walter V. Klemp
Chief Executive Officer
(Principal Executive Officer)

A signed original of this written statement required by Section 906 has been provided to Moleculin Biotech, Inc. and will be retained by Moleculin Biotech, Inc. and furnished to the Securities and Exchange Commission or its staff upon request.

Exhibit 32.2

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report on Form 10-Q for the quarter ended September 30, 2020 of Moleculin Biotech, Inc. (the "Company") as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Jonathan Foster, Chief Financial Officer of the Company, hereby certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

- The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C 78m or 78o(d)); and
- The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: November 12, 2020

By: /s/ Jonathan P. Foster
Jonathan P. Foster
Executive Vice President and Chief Financial Officer
(Principal Financial Officer and Principal Accounting Officer)

A signed original of this written statement required by Section 906 has been provided to Moleculin Biotech, Inc. and will be retained by Moleculin Biotech, Inc. and furnished to the Securities and Exchange Commission or its staff upon request.

Document And Entity Information - shares	9 Months Ended Sep. 30, 2020	Nov. 05, 2020
Document Information [Line Items]		
Entity Central Index Key	0001659617	
Entity Registrant Name	Moleculin Biotech, Inc.	
Amendment Flag	false	
Current Fiscal Year End Date	--12-31	
Document Fiscal Period Focus	Q3	
Document Fiscal Year Focus	2020	
Document Type	10-Q	
Document Quarterly Report	true	
Document Period End Date	Sep. 30, 2020	
Document Transition Report	false	
Entity File Number	001-37758	
Entity Incorporation, State or Country Code	DE	
Entity Tax Identification Number	47-4671997	
Entity Address, Address Line One	5300 Memorial Drive	
Entity Address, City or Town	Houston	
Entity Address, State or Province	TX	
Entity Address, Postal Zip Code	77007	
City Area Code	713	
Local Phone Number	300-5160	
Entity Current Reporting Status	Yes	
Entity Interactive Data Current	Yes	
Entity Small Business	true	
Entity Filer Category	Non-accelerated Filer	
Entity Emerging Growth Company	true	
Entity Ex Transition Period	true	
Entity Shell Company	false	
Title of 12(b) Security	Common Stock, par value $0.001 per share	
Trading Symbol	MBRX	
Security Exchange Name	NASDAQ	
Entity Common Stock, Shares Outstanding		62,464,564

Condensed Consolidated Balance Sheets (Unaudited) - USD ($) $ in Thousands	Sep. 30, 2020	Dec. 31, 2019
Current assets:		
Cash and cash equivalents	$ 12,795	$ 10,735
Prepaid expenses and other current assets	2,455	2,749
Total current assets	15,250	13,484
Furniture and equipment, net	522	316
Intangible assets	11,148	11,148
Operating lease right-of-use asset	224	287
Total assets	27,144	25,235
Current liabilities:		
Accounts payable	1,343	2,153
Accrued expenses and other current liabilities	2,095	1,417
Total current liabilities	3,438	3,570
Operating lease liability - long-term, net of current portion	190	276
Warrant liability - long-term	9,049	5,818
Total liabilities	12,677	9,664
Commitments and contingencies (Note 7)		
Stockholders' equity		
Preferred stock, $0.001 par value; 5,000,000 shares authorized, no shares issued or outstanding	0	0
Common stock, $0.001 par value; 100,000,000 shares authorized as of September 30, 2020 and December 31, 2019, 61,764,225 and 45,727,700 shares issued and outstanding at September 30, 2020 and December 31, 2019, respectively	62	46
Additional paid-in capital	68,649	55,055
Accumulated other comprehensive income	33	31
Accumulated deficit	(54,277)	(39,561)
Total stockholders’ equity	14,467	15,571
Total liabilities and stockholders’ equity	$ 27,144	$ 25,235

Condensed Consolidated Balance Sheets (Unaudited) (Parentheticals) - $ / shares	Sep. 30, 2020	Dec. 31, 2019
Preferred stock, par value (in dollars per share)	$ 0.001	$ 0.001
Preferred stock, shares authorized (in shares)	5,000,000	5,000,000
Preferred stock, shares issued (in shares)	0	0
Preferred stock, shares outstanding (in shares)	0	0
Common stock, par value (in dollars per share)	$ 0.001	$ 0.001
Common stock, shares authorized (in shares)	100,000,000	100,000,000
Common stock, shares issued (in shares)	61,764,225	45,727,700
Common stock, shares outstanding (in shares)	61,764,225	45,727,700

Condensed Consolidated Statements of Operations and Comprehensive Loss (Unaudited) - USD ($)	3 Months Ended		9 Months Ended	
	Sep. 30, 2020	Sep. 30, 2019	Sep. 30, 2020	Sep. 30, 2019
Revenues	$ 0	$ 0	$ 0	$ 0
Operating expenses:				
Research and development	4,435,000	2,785,000	10,971,000	7,816,000
General and administrative	1,659,000	1,672,000	5,122,000	4,748,000
Depreciation and amortization	57,000	51,000	154,000	147,000
Total operating expenses	6,151,000	4,508,000	16,247,000	12,711,000
Loss from operations	(6,151,000)	(4,508,000)	(16,247,000)	(12,711,000)
Other income:				
Gain from change in fair value of warrant liability	2,743,000	124,000	1,489,000	3,059,000
Other income, net	10,000	5,000	32,000	5,000
Interest income, net	3,000	5,000	10,000	10,000
Net loss before taxes	(3,395,000)	(4,374,000)	(14,716,000)	(9,637,000)
Income tax benefit	0	229,000	0	229,000
Net loss	$ (3,395,000)	$ (4,145,000)	$ (14,716,000)	$ (9,408,000)
Net loss per common share - basic and diluted (in dollars per share)	$ (0.06)	$ (0.09)	$ (0.26)	$ (0.24)
Weighted average common shares outstanding, basic and diluted (in shares)	61,474,857	45,464,746	56,979,507	39,034,303
Net loss	$ (3,395,000)	$ (4,145,000)	$ (14,716,000)	$ (9,408,000)
Other comprehensive income (loss):				
Foreign currency translation	10,000	(3,000)	2,000	(16,000)
Comprehensive loss	$ (3,385,000)	$ (4,148,000)	$ (14,714,000)	$ (9,424,000)

Condensed Consolidated Statements of Cash Flows (Unaudited) - USD ($) $ in Thousands	9 Months Ended	
	Sep. 30, 2020	Sep. 30, 2019
Cash flows from operating activities:		
Net loss	$ (14,716)	$ (9,408)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	154	147
Stock-based compensation	1,265	1,155
License rights expense settled in stock	0	490
Change in fair value of warrant liability	(1,489)	(3,059)
Operating lease, net of sublease receipts	90	(10)
Changes in operating assets and liabilities:		
Prepaid expenses and other current assets	294	(2,337)
Accounts payable	(810)	1,942
Accrued expenses and other current liabilities	565	(1,441)
Net cash used in operating activities	(14,647)	(12,521)
Cash flows from investing activities:		
Purchase of fixed assets	(360)	(42)
Net cash used in investing activities	(360)	(42)
Cash flows from financing activities:		
Proceeds from exercise of stock options	0	5
Proceeds from exercise of warrants	5	1,557
Payment of tax liability for vested restricted stock units	(17)	0
Proceeds from sale of common stock, net of issuance costs	17,077	19,292
Net cash provided by financing activities	17,065	20,854
Effect of exchange rate changes on cash and cash equivalents	2	(16)
Net change in cash and cash equivalents	2,060	8,275
Cash and cash equivalents, at beginning of period	10,735	7,134
Cash and cash equivalents, at end of period	12,795	15,409
Supplemental disclosures of cash flow information:		
Cash paid for interest	0	1
Cash paid for taxes	20	15
Research and development expense settled in stock	0	490
Non-cash investing and financing activities:		
Purchases of property and equipment in accounts payable and accrued liabilities	$ 316	$ 21

Condensed Consolidated Statements of Stockholders' Equity (Unaudited) - USD ($) $ in Thousands	Lincoln Park [Member] Common Stock [Member]	Lincoln Park [Member] Additional Paid-in Capital [Member]	Lincoln Park [Member] Retained Earnings [Member]	Lincoln Park [Member] AOCI Attributable to Parent [Member]	Lincoln Park [Member]	Common Stock [Member]	Additional Paid-in Capital [Member]	Retained Earnings [Member]	AOCI Attributable to Parent [Member]	Total
Balance (in shares) at Dec. 31, 2018						28,528,663				
Balance at Dec. 31, 2018						$ 29	$ 40,564	$ (26,356)	$ 35	$ 14,272
Issued for cash - sale of common stock, net of issuance costs (in shares)	605,367					5,250,000				
Issued for cash - sale of common stock, net of issuance costs	$ 0	$ 883	$ 0	$ 0	$ 883	$ 5	3,221	0	0	3,226
Stock-based compensation						0	348	0	0	348
Consolidated net loss						0	0	(4,041)	0	(4,041)
Foreign currency translation						$ 0	0	0	(11)	(11)
Exercised, number of shares (in shares)						25,000				
Stock options exercised						$ 0	5	0	0	5
Balance (in shares) at Mar. 31, 2019						34,409,030				
Balance at Mar. 31, 2019						$ 34	45,021	(30,397)	24	14,682
Balance (in shares) at Dec. 31, 2018						28,528,663				
Balance at Dec. 31, 2018						$ 29	40,564	(26,356)	35	14,272
Consolidated net loss										(9,408)
Foreign currency translation										(16)
Balance (in shares) at Sep. 30, 2019						45,727,700				
Balance at Sep. 30, 2019						$ 46	54,673	(35,763)	19	18,975
Balance (in shares) at Mar. 31, 2019						34,409,030				
Balance at Mar. 31, 2019						$ 34	45,021	(30,397)	24	14,682
Issued for cash - sale of common stock, net of issuance costs (in shares)						9,375,000				
Issued for cash - sale of common stock, net of issuance costs						$ 9	3,575	0	0	3,584
Stock-based compensation						0	318	0	0	318
Consolidated net loss						0	0	(1,221)	0	(1,221)
Foreign currency translation						$ 0	0	0	(2)	(2)
Warrants exercised (in shares)						1,413,018				
Warrants exercised						$ 2	4,729	0	0	4,731
Balance (in shares) at Jun. 30, 2019						45,197,048				
Balance at Jun. 30, 2019						$ 45	53,643	(31,618)	22	22,092
Issued for cash - sale of common stock, net of issuance costs (in shares)						100,674				
Issued for cash - sale of common stock, net of issuance costs						$ 0	52	0	0	52
Stock-based compensation						0	489	0	0	489
Consolidated net loss						0	0	(4,145)	0	(4,145)

Foreign currency translation	$ 0	0	0	(3)	(3)
Common stock issued for license rights (in shares)	429,978				
Common stock issued for license rights	$ 1	489	0	0	490
Balance (in shares) at Sep. 30, 2019	45,727,700				
Balance at Sep. 30, 2019	$ 46	54,673	(35,763)	19	18,975
Balance (in shares) at Dec. 31, 2019	45,727,700				
Balance at Dec. 31, 2019	$ 46	55,055	(39,561)	31	15,571
Issued for cash - sale of common stock, net of issuance costs (in shares)	7,500,000				
Issued for cash - sale of common stock, net of issuance costs	$ 7	559	0	0	566
Stock-based compensation	0	397	0	0	397
Consolidated net loss	0	0	(1,209)	0	(1,209)
Foreign currency translation	$ 0	0	0	(33)	(33)
Balance (in shares) at Mar. 31, 2020	53,227,700				
Balance at Mar. 31, 2020	$ 53	56,011	(40,770)	(2)	15,292
Balance (in shares) at Dec. 31, 2019	45,727,700				
Balance at Dec. 31, 2019	$ 46	55,055	(39,561)	31	15,571
Consolidated net loss					(14,716)
Foreign currency translation					$ 2
Exercised, number of shares (in shares)					0
Balance (in shares) at Sep. 30, 2020	61,764,225				
Balance at Sep. 30, 2020	$ 62	68,649	(54,277)	33	$ 14,467
Balance (in shares) at Mar. 31, 2020	53,227,700				
Balance at Mar. 31, 2020	$ 53	56,011	(40,770)	(2)	15,292
Issued for cash - sale of common stock, net of issuance costs (in shares)	7,170,964				
Issued for cash - sale of common stock, net of issuance costs	$ 7	10,000	0	0	10,007
Stock-based compensation	0	408	0	0	408
Consolidated net loss	0	0	(10,112)	0	(10,112)
Foreign currency translation	$ 0	0	0	25	25
Warrants exercised (in shares)	4,500				
Warrants exercised	$ 0	9	0	0	9
Balance (in shares) at Jun. 30, 2020	60,403,164				
Balance at Jun. 30, 2020	$ 60	66,428	(50,882)	23	15,629
Issued for cash - sale of common stock, net of issuance costs (in shares)	1,301,126				
Issued for cash - sale of common stock, net of issuance costs	$ 2	1,778	0	0	1,780
Stock-based compensation	0	460	0	0	460
Consolidated net loss	0	0	(3,395)	0	(3,395)
Foreign currency translation	$ 0	0	0	10	10

Common stock issued upon vesting of restricted stock units (net of shares withheld for payment of tax liability) (in shares)	59,935				
Common stock issued upon vesting of restricted stock units (net of shares withheld for payment of tax liability)	$ 0	(17)	0	0	(17)
Balance (in shares) at Sep. 30, 2020	61,764,225				
Balance at Sep. 30, 2020	$ 62	$ 68,649	$ (54,277)	$ 33	$ 14,467

Condensed Consolidated Statements of Stockholders' Equity (Unaudited) (Parentheticals) - USD ($) $ in Thousands	3 Months Ended					
	Sep. 30, 2020	Jun. 30, 2020	Mar. 31, 2020	Sep. 30, 2019	Jun. 30, 2019	Mar. 31, 2019
Issued for cash - sale of common stock, issuance costs	$ 135	$ 336	$ 709	$ 59	$ 1,300	$ 617

Note 1 - Nature of Business and Liquidity

Notes to Financial Statements

Nature of Business and Liquidity [Text Block]

9 Months Ended
Sep. 30, 2020

1. Nature of Business and Liquidity

The terms "MBI" or "the Company", "we", "our", and "us" are used herein to refer to Moleculin Biotech, Inc. MBI is a clinical-stage pharmaceutical company, organized as a Delaware corporation in July 2015, with its focus on the treatment of highly resistant cancers and viruses through the development of its drug candidates, all of which are based on license agreements with The University of Texas System on behalf of the MD Anderson Cancer Center, which we refer to as MD Anderson. MBI formed Moleculin Australia Pty. Ltd., (MAPL), a wholly owned subsidiary, to perform certain preclinical development in Australia. This enables the Company to enjoy the benefits of certain research and development tax credits in Australia. In February 2019, the Company entered into an agreement with Animal Life Sciences, LLC (ALI), where the Company has granted a sublicense to ALI to research, develop, make, have made, use, offer to sell, sell, export or import and commercialize certain licensed products for non-human use and share development data. ALI issued to the Company a 10% interest in ALI. ALI converted into a corporation and became Animal Life Sciences, Inc.

Core Technologies - MBI has three core technologies, two of which have multiple drug candidates, and all of which are based on discoveries made at MD Anderson. These core technologies are 1) Annamycin, 2) its STAT3 Immune/Transcription Modulators, or simply "Immune/Transcription Modulators" WP1066 portfolio and 3) its Antimetabolite (including Metabolism/Glycosylation Inhibitors) WP1122 portfolio of molecules. The Company's clinical stage drugs are Annamycin, an anthracycline which is currently in one Phase 1/2 study for the treatment of relapsed acute myeloid leukemia (AML), with one Phase 1 study in the United States of America (US) recently concluding, WP1066, an Immune/Transcription Modulator, which is in two Phase 1 clinical trials in the US for the treatment of brain tumors, and WP1220, a member of the WP1066 portfolio of drugs, which has completed a Phase 1 proof-of-concept clinical trial in Poland for the topical treatment of cutaneous T-cell lymphoma (CTCL), a form of skin cancer.

The Company refers to Annamycin as a "Next Generation Anthracycline" since it is designed to avoid the multidrug resistance mechanisms that typically defeat currently approved anthracyclines, as well as to be non-cardiotoxic, which is the dose limiting toxicity for all currently approved anthracyclines. Annamycin is currently in a Phase 1/2 clinical trial in Europe, having successfully completed a Phase 1 safety trial in the US in early 2020, and preliminary clinical data suggests that it may have the potential to become the first therapy suitable for the majority of relapsed AML patients regardless of gene mutations. These trials have so far demonstrated safety, including the absence of any cardiotoxicity, and have demonstrated some initial efficacy. Additionally, preclinical research in animal models at MD Anderson demonstrated that Annamycin is able to significantly improve survival in multiple tumors that have metastasized to the lungs. Coupled with research demonstrating that Annamycin is capable of accumulating in the lungs at high levels, this suggests that Annamycin may be well suited to become a treatment for lung-localized tumors and the Company is performing preclinical work to enable an IND or its equivalent to be filed by the end of this year.

WP1066 is one of several Immune/Transcription Modulators in the Company's pipeline that appear capable of stimulating immune response to tumors by inhibiting the errant activity of Regulatory T-Cells (TRegs) while also inhibiting key oncogenic transcription factors, including p-STAT3, c-Myc and HIF-1 alpha. These transcription factors are widely sought targets that may also play a role in the lack of efficacy of immune checkpoint inhibitors in certain resistant tumors. The "proof-of-concept" Phase 1 trial in Poland for WP1220 demonstrated safety and efficacy and the Company intends to attempt to join efforts with a strategic partner for the continued development of WP1220 as a topical therapy for CTCL.

The Company is also developing new prodrugs to exploit the potential uses of its WP1122 portfolio of antimetabolites, including inhibitors of glycolysis and glycosylation. Its lead Metabolism/Glycosylation Inhibitor compound, WP1122, provides an opportunity to cut off the fuel supply of tumors and viruses by taking advantage of their overdependence on glucose and glycolysis as compared with healthy cells. New research also points to the potential for the glucose decoy (2-DG) within WP1122 to be capable of enhancing the usefulness of checkpoint inhibitors and inhibiting glycosylation and glycolysis in virally infected cells. During 2020, the Company entered into agreements with several third party research centers to conduct research on WP1122 for antiviral properties against a range of viruses, including Coronavirus. Additional research with other molecules in this portfolio with independent contractors has also begun.

Drug Candidates - Within the Company's core technologies, it currently has five drug candidates representing three substantially different mechanisms of action. Annamycin is a chemotherapy designed to inhibit the replication of DNA of rapidly dividing cells and is the Company's most mature drug candidate. The Company has a trial open in Poland and one that recently completed in the US. The US Phase 1 portion of the Phase 1/2 trial reached key safety end points in early 2020. As a result of discussions with the FDA, the Company will utilize its trial in Europe to establish a recommended Phase 2 dose (RP2D) and to generate additional safety and efficacy data as requested by the FDA. The Phase 1/2 trial in Poland continues its dose escalation and is in its fifth cohort where patients are being treated at 240 mg/m2. The second patient in that cohort experienced a dose limiting toxicity (DLT), secondarily related to concomitant medication not being withheld. The DLT was resolved, and that cohort will be expanded to a total of six patients. If a second DLT in this cohort occurs, then we would enroll three subjects that would be treated at 210 mg/m2 to confirm the maximum tolerated dosage. If no additional DLT occurs in the current cohort, then we will progress to the sixth cohort at 300 mg/m2. We believe the impact of the COVID-19 pandemic is slowing the pace of our patient recruitment in our Polish Annamycin clinical trial. We cannot assess when such an impact on our trial will be alleviated or if it will worsen. So far both trials have demonstrated that Annamycin, to date, is safe and is non-cardiotoxic. The trials have demonstrated initial efficacy as well.

In addition to Annamycin, the Company has other drug development projects, two of which are also in clinical trials:

- Two separate Phase 1 physician-sponsored clinical trials are under way to evaluate WP1066. One trial is at MD Anderson Cancer Center for the potential treatment of adult patients with brain tumors and the other is at Emory University for the potential treatment of pediatric brain tumors. Both have begun treating patients. In the Emory trial, one of the patients with DIPG (Diffuse Intrinsic Pontine Glioma), showed an apparent response to the treatment with both clinical improvement and radiologic reduction of tumor size. We caution that this is preliminary data and no conclusions should be drawn from this single event.

- The Company is also evaluating WP1066 for the potential treatment of AML, pancreatic and other cancers. MBI has begun pre-clinical work that it expects to generate sufficient data for an IND for an intravenous formulation of one of its STAT3 inhibitors, which filing is expected to be submitted in 2021.

- WP1220 is an analog of WP1066 for which Polish authorities approved the Company's Clinical Trial Application (CTA) in 2019 for a Phase 1 "proof-of-concept" clinical trial to study the topical treatment of CTCL. This trial was completed, and the Company believes it demonstrated sufficient efficacy to justify a Phase 2 trial. The Company intends to attempt to join efforts with a strategic partner in 2021 for the further development of WP1220 for the treatment of CTCL.

- Several molecules in the WP1122 portfolio are being evaluated for their potential to address hard to treat cancers and viruses. This portfolio of antimetabolites includes WP1122 which inhibits glycolysis and glycosylation. The Company has begun preclinical work on WP1122 and other analogs in this portfolio to possibly position one or more of them as treatments for certain cancers and viruses, including the Coronavirus. The

Company believes this work may support an IND or its equivalent for WP1122 and/or related compounds.

Clinical Trials - The Company has concluded the initial Phase 1 portion of its Phase 1/2 trial of Annamycin for the potential treatment of AML in the US due to the FDA's requirement to set the initial dose level relatively low in comparison with previous Annamycin clinical trials. Additionally, the Company believes that patient recruitment for its Annamycin AML clinical trial in Europe will continue to be more successful than in the US due to a comparatively lower number of competitive clinical trials and the protocol there being approved to start at a significantly higher dose than in the US with fewer enrollment screening limitations. This European AML trial is in its fifth cohort in the dose ranging Phase 1 portion of the trial. The Company has also announced plans to submit an IND or its equivalent for the use of Annamycin to potentially treat lung metastases, which it expects to submit before the end of 2020.

In September 2018, the physician-sponsored WP1066 Phase 1 clinical trial for the treatment of glioblastoma and melanoma metastasized to the brain, which opened for recruitment in July 2018, began treating patients. In April 2020, a second physician-sponsored Phase 1 trial for the potential treatment of pediatric brain tumors began recruitment and has begun treating patients. In August 2019, the Company completed its proof-of-concept Phase 1 clinical trial in Poland to study WP1220, a part of the WP1066 portfolio, for the treatment of CTCL. This trial demonstrated the safety of WP1220 and also demonstrated, the Company believes, initial efficacy sufficient to support beginning a Phase 2 clinical trial. The Company intends to attempt to join efforts with a strategic partner in 2021 for the further development of WP1220 for the treatment of CTCL.

Moleculin has recently announced discoveries (both internally funded and independently developed) supporting the potential use of WP1122 for the treatment of COVID-19 and other viral diseases. The Company is deploying resources on the development of an IND or its equivalent for testing WP1122 in patients with COVID-19 and/or certain cancers, as such preclinical work may support both viral and cancer indications. It expects to submit such an IND or its equivalent in the first half of 2021, as access to in vivo studies may necessitate such timing.

Licenses - The Company has been granted royalty-bearing, worldwide, exclusive licenses for the patent and technology rights related to all of MBI's drug technologies, as these intellectual property rights are owned in part or entirely by MD Anderson. The Annamycin drug substance is no longer covered by any existing patent protection, however, the Company filed new patent applications in July 2019 for formulation, synthetic process and reconstitution related to MBI's Annamycin drug product candidate, although there is no assurance that the Company will be successful in obtaining such patent protection. Most of this technology is also licensed from MD Anderson. The Company sponsors significant research at MD Anderson. New patents may result out of this research. From time to time, there are license issues that need to be discussed and handled with MD Anderson such as adding additional patents to existing license agreements and extension of milestones. The Company believes that such issues will be handled in the ordinary course of business.

Independently from potential patent protection, MBI has received Orphan Drug designation (ODD) from the FDA for Annamycin for the treatment of AML and for WP1066 for the treatment of glioblastoma. ODD may provide tax and other benefits during product development, and if either product is approved, may lead to a grant of seven-year market exclusivity. Under that exclusivity, which runs from the date of the approval of the New Drug Application (NDA) in the US, the FDA generally (there are important exceptions) could not approve another product containing the same drug for the designated indication. The Company also intends to apply for similar status in the European Union (EU) where market exclusivity could extend to 10 years from the date of Marketing Authorization Application (MAA) approval. Separately, the FDA may also grant market exclusivity of 5 years for newly approved new chemical entities (which the Company believes Annamycin would be one), which would preclude approval of any other annamycin product, but there can be no assurance that such exclusivity will be granted. In April 2019, FDA approved the Company's request for Fast Track Designation for Annamycin for the treatment of relapsed or refractory AML. Fast Track Designation, the purpose

of which is to expedite drug development and approval, is granted to drugs intended to treat serious conditions and where data demonstrate the potential to address an unmet medical need.

COVID 19 - In March 2020, the World Health Organization declared the outbreak of a novel Coronavirus (COVID-19) as a pandemic, which continues to spread throughout the world. The spread of COVID-19 has caused significant volatility in US and international markets, including Poland, where the Company conducts some of its clinical trials and Italy, where its drug supply is produced. There has been limited interruption of the Company's drug supply, and some Polish clinics where the Company is conducting trials have limited access on monitoring activities. Additionally, the Company believes COVID-19 has materially slowed the progress of the Company's trials. This could worsen or be alleviated at any time. Furthermore, there is significant uncertainty around the breadth and duration of business disruptions related to COVID-19, as well as its impact on the US and international economies and, as such, the Company is unable to determine if it will have a material impact to its operations.

Nasdaq - On September 30, 2020, the Company received a letter from NASDAQ notifying the Company that for the last 30 consecutive business days the bid price for the Company's common stock had closed below the minimum $1.00 per share requirement for continued inclusion on the Nasdaq Capital Market pursuant to Nasdaq Listing Rule 5550(a)(2) (the "Bid Price Rule"). The deficiency letter does not result in the immediate delisting of the Company's common stock from the Nasdaq Capital Market. In accordance with Nasdaq Listing Rule 5810(c)(3)(A), the Company has been provided an initial period of 180 calendar days, or until March 29, 2021, to regain compliance with the Bid Price Rule. If, at any time before March 29, 2021, the bid price for the Company's common stock closes at $1.00 or more for a minimum of 10 consecutive business days, the Nasdaq Staff will provide written notification to the Company that it complies with the Bid Price Rule, unless the Staff exercises its discretion to extend this 10 day period pursuant to Nasdaq Listing Rule 5810(c)(3)(G). If the Company is not in compliance with the Bid Price Rule by March 29, 2021, the Company may be afforded a second 180 calendar day period to regain compliance. To qualify, the Company would be required to meet the continued listing requirement for market value of publicly held shares and all other initial listing standards for the Nasdaq Capital Market, except for the minimum bid price requirement. In addition, the Company would be required to notify Nasdaq of its intent to cure the minimum bid price deficiency, which may include, if necessary, implementing a reverse stock split. If the Company does not regain compliance with the Bid Price Rule by March 29, 2021 and is not eligible for an additional compliance period at that time, the Nasdaq Staff will provide written notification to the Company that its common stock may be delisted. The Company would then be entitled to appeal the Nasdaq Staff's determination to a NASDAQ Listing Qualifications Panel and request a hearing. There can be no assurance that, if the Company does appeal a delisting determination by the Nasdaq Staff to the NASDAQ Listing Qualifications Panel, that such appeal would be successful. The Company intends to monitor the closing bid price of its common stock and may, if appropriate, consider available options to regain compliance with the Bid Price Rule, which could include effecting a reverse stock split. However, there can be no assurance that the Company will be able to regain compliance with the Bid Price Rule.

Note 2 - Basis of Presentation, Principles of Consolidation and Significant Accounting Policies

Notes to Financial Statements

Significant Accounting Policies [Text Block]

9 Months Ended

Sep. 30, 2020

2. Basis of presentation, principles of consolidation and significant accounting policies

Basis of Presentation – Unaudited Interim Condensed Consolidated Financial Information - The accompanying unaudited interim condensed consolidated financial statements and related notes have been prepared in accordance with accounting principles generally accepted in the US (U.S. GAAP) for financial information, and in accordance with the rules and regulations of the US Securities and Exchange Commission (SEC) with respect to Form 10-Q and Article 8 of Regulation S-X. Accordingly, they do not include all of the information and footnotes required by U.S. GAAP for complete financial statements. The unaudited interim condensed consolidated financial statements furnished reflect all adjustments (consisting of normal recurring adjustments), which are, in the opinion of management, necessary for a fair statement of results for the interim periods presented. Interim results are not necessarily indicative of the results for the full year. These interim condensed unaudited consolidated financial statements should be read in conjunction with the audited financial statements of the Company as of December 31, 2019 and December 31, 2018 and notes thereto contained in the Form 10-K filed with the SEC on March 19, 2020.

Principles of consolidation - The accompanying unaudited condensed consolidated financial statements include the accounts of the Company and its wholly owned subsidiary. All intercompany balances and transactions have been eliminated in consolidation. Any reference in these notes to applicable guidance is meant to refer to U.S. GAAP. The company views its operations and manages its business in one operating segment. All long-lived assets of the Company reside in the US.

Use of Estimates - The preparation of these condensed consolidated financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of expenses during the reporting period. Actual results could differ from those estimates. Management considers many factors in selecting appropriate financial accounting policies and controls, and in developing the estimates and assumptions that are used in the preparation of these financial statements. Management must apply significant judgment in this process. In addition, other factors may affect estimates, including expected business and operational changes, sensitivity and volatility associated with the assumptions used in developing estimates, and whether historical trends are expected to be representative of future trends. The estimation process often may yield a range of potentially reasonable estimates of the ultimate future outcomes and management must select an amount that falls within that range of reasonable estimates. This process may result in actual results differing materially from those estimated amounts used in the preparation of financial statements. Estimates are used in the following areas, among others: fair value estimates on intangible assets, warrants, and stock-based compensation expense, as well as accrued expenses and taxes.

Going Concern - These condensed consolidated financial statements have been prepared on a going concern basis, which assumes the Company will continue to realize its assets and discharge its liabilities in the normal course of business. The continuation of the Company as a going concern is dependent upon the ability of the Company to obtain necessary equity financing to continue operations and the attainment of profitable operations. As of September 30, 2020, the Company has incurred an accumulated deficit of $54.3 million since inception and had not yet generated any revenue from operations. Additionally, management anticipates that its cash on hand as of September 30, 2020, is sufficient to fund its planned operations into but not beyond the near term. These factors raise substantial doubt regarding the Company's ability to

continue as a going concern. These unaudited condensed consolidated financial statements do not include any adjustments to the recoverability and classification of recorded asset amounts and classification of liabilities that might be necessary should the Company be unable to continue as a going concern. The Company may seek additional funding through a combination of equity offerings, debt financings, government or other third-party funding, commercialization, marketing and distribution arrangements, other collaborations, strategic alliances and licensing arrangements and delay planned cash outlays or a combination thereof. Management cannot be certain that such events or a combination thereof can be achieved.

Cash and Cash Equivalents - The Company considers all highly liquid accounts with original maturities of three months or less at the date of acquisition to be cash equivalents. Periodically in the ordinary course of business, the Company may carry cash balances at financial institutions in excess of the Federally insured limits of $250,000.

Prepaid Expenses and Other Current Assets - Prepaid expenses and other current assets consist of the following (in thousands):

	September 30, 2020	December 31, 2019
Vendor prepayments and deposits	$ 1,312	$ 1,857
Prepaid insurance	880	352
Other current assets	257	529
Related party receivables	5	10
Non-trade receivables	1	1
Total prepaid expenses and other current assets	$ 2,455	$ 2,749

Vendor prepayments at September 30, 2020 and December 31, 2019, includes approximately $1.1 million and $1.5 million, respectively, for the expansion of Annamycin production commitments on a commercial scale currently expected to be delivered through the remainder of 2020 and into the first quarter of 2021 for use in clinical trials.

Intangible Assets - Intangible assets with finite lives are amortized using the straight-line method over their estimated period of benefit. Acquired intangible assets identified as in-process research and development (IPR&D) assets, are considered indefinite lived until the completion or abandonment of the associated research and development efforts. If the associated research and development effort is abandoned, the related IPR&D assets will be written-off and the Company will record a noncash impairment loss on its statements of operations. For those compounds that reach commercialization, the IPR&D assets will be amortized over their estimated useful lives. The Company evaluates the recoverability of intangible assets periodically and take into account events or circumstances that warrant revised estimates of useful lives or that indicate that impairment exists. No impairments of intangible assets have been identified during any of the periods presented. Intangible assets are tested for impairment on an annual basis, and between annual tests if indicators of potential impairment exist, using a fair-value-based approach.

Property and Equipment, net - Leasehold improvements, furniture, equipment and software are recorded at cost and are depreciated using the straight-line method over the estimated useful lives of the related assets. Leasehold improvements are amortized over the shorter of the estimated useful life or the remaining lease term. Accumulated depreciation on property and equipment was $0.4 million and $0.3 million at September 30, 2020 and December 31, 2019, respectively.

Operating Lease Right-of-Use Asset - The Company determines if an arrangement is a lease at contract inception or during modifications or renewal of an existing lease. Operating lease assets represent the Company's right to use an underlying asset for the lease term and operating lease liabilities represent the Company's obligation to make lease payments arising from the lease. Operating lease assets and liabilities are recognized at the commencement date of the lease based upon the present value of lease payments over the lease term. The lease payments used to determine the Company's operating lease assets may include lease incentives, stated rent

increases and escalation clauses linked to rates of inflation when determinable and are recognized in the Company's operating lease assets in the Company's condensed consolidated balance sheet. The Company has elected the practical expedient and does not separate lease components from nonlease components for its leases. The Company's operating leases are reflected in operating lease right-of-use asset (ROU), accrued expenses and other current liabilities, and operating lease liability - long-term, net of current portion in the Company's condensed consolidated balance sheets. Lease expense for minimum lease payments is recognized on a straight-line basis over the lease term. Short-term leases, defined as leases that have a lease term of 12 months or less at the commencement date, are excluded from this treatment and are recognized on a straight-line basis over the term of the lease. Refer to Note 7 - Commitments and Contingencies - Lease Obligations Payable for additional information related to the Company’s operating leases.

Cost Method Investment - The Company's cost method investment consists of an investment in a corporation in which it does not have the ability to exercise significant influence over its operating and financial activities. Management evaluates this investment for possible impairment quarterly.

Fair Value of Financial Instruments - The Company's financial instruments consist primarily of non-trade receivables, accounts payable, accrued expenses and its warrant liability. The carrying amount of non-trade receivables, accounts payable, and accrued expenses approximates their fair value because of the short-term maturity of such.

The Company has categorized its assets and liabilities that are valued at fair value on a recurring basis into a three-level fair value hierarchy in accordance with U.S. GAAP. Fair value is defined as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. The fair value hierarchy gives the highest priority to quoted prices in active markets for identical assets and liabilities (Level 1) and lowest priority to unobservable inputs (Level 3).

Assets and liabilities recorded in the balance sheets at fair value are categorized based on a hierarchy of inputs as follows:

Level 1 – Unadjusted quoted prices in active markets of identical assets or liabilities.
Level 2 – Quoted prices for similar assets or liabilities in active markets or inputs that are observable for the asset or liability, either directly or indirectly through market corroboration, for substantially the full term of the financial instrument.
Level 3 – Unobservable inputs for the asset or liability.

The Company’s financial assets and liabilities recorded at fair value on a recurring basis include the fair value of warrant liability discussed in Note 4.

The following table provides assets and liabilities reported at fair value and measured on a recurring basis at September 30, 2020 and December 31, 2019 (in thousands):

Description	Liabilities Measured at Fair Value	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Other Unobservable Inputs (Level 3)
Fair value of warrant liability as of September 30, 2020:	$ 9,049	$ —	$ —	$ 9,049
Fair value of warrant liability as of December 31, 2019:	$ 5,818	$ —	$ —	$ 5,818

The table below (in thousands) of Level 3 liabilities begins with the valuation as of the beginning of the third quarter and then is adjusted for the issuances and exercises that occurred during the third quarter of 2020 and adjusts for balances for changes in fair value that occurred during the current quarter. The ending balance of the Level 3 financial instrument presented above represents our best estimates and may not be substantiated by comparison to independent markets and, in many cases, could not be realized in immediate settlement of the instruments.

Three Months Ended September 30, 2020	Warrant Liability Current	Warrant Liability Long-Term	Warrant Liability Total
Balance, June 30, 2020	$ —	$ 11,792	$ 11,792
Exercise of warrants	—	—	—
Change in fair value - net	—	(2,743)	(2,743)
Balance, September 30, 2020	$ —	$ 9,049	$ 9,049

The table below (in thousands) of Level 3 liabilities begins with the valuation as of December 31, 2019 and then is adjusted for the issuances and exercises, and changes in fair value that occurred during the nine months ended September 30, 2020. The ending balance of the Level 3 financial instrument presented above represents our best estimates and may not be substantiated by comparison to independent markets and, in many cases, could not be realized in immediate settlement of the instruments.

Nine Months Ended September 30, 2020	Warrant Liability Current	Warrant Liability Long-Term	Warrant Liability Total
Balance, December 31, 2019	$ —	$ 5,818	$ 5,818
Issuances of warrants	—	4,724	4,724
Exercise of warrants	—	(4)	(4)
Change in fair value - net	—	(1,489)	(1,489)
Balance, September 30, 2020	$ —	$ 9,049	$ 9,049

Loss Per Common Share - Basic net loss per common share is computed by dividing net loss available to common shareholders by the weighted-average number of common shares outstanding during the period. For purposes of this calculation, options to purchase common stock, restricted stock units subject to vesting and warrants to purchase common stock are considered to be common stock equivalents. Diluted net loss per common share is determined using the weighted-average number of common shares outstanding during the period, adjusted for the dilutive effect of common stock equivalents. In periods when losses are reported, the weighted-average number of common shares outstanding excludes common stock equivalents, because their inclusion would be antidilutive. For the three months ended September 30, 2020 and 2019, approximately 22.9 million and approximately 14.7 million, respectively, of potentially dilutive shares were excluded from the computation of diluted earnings per share due to their antidilutive effect. For the nine months ended September 30, 2020 and 2019, approximately 20.8 million and approximately 11.3 million, respectively, of potentially dilutive shares were excluded from the computation of diluted earnings per share due to their antidilutive effect.

Stock-based Compensation - Stock-based compensation expense includes the estimated fair value of equity awards vested or expected to vest during the reporting period. The Company accounts for its stock-based compensation awards in accordance with Financial Accounting Standards Board (FASB) Accounting Standards Codification Topic (ASC) 718, Compensation—Stock Compensation (ASC 718). ASC 718 requires all stock-based payments to employees, including grants of employee stock options, restricted stock units, and modifications to existing stock options, to be recognized in the consolidated statements of operations based on their fair values. The grant date fair value of stock options is determined using the Black-Scholes option pricing model and the grant date fair value of restricted stock awards is determined using the closing price of the Company's common stock on the date of grant (or if the date of grant is not a business day, on the business day prior to the date of the grant). The awards are subject to service vesting conditions. Compensation expense related to awards to employees and directors

with service-based vesting conditions is recognized on a straight-line basis based on the grant date fair value over the associated service period of the award, which is generally the vesting term, net of forfeitures which are recognized as they occur. Compensation expense related to awards to non-employees with service-based vesting conditions is recognized based on the then-current fair value at each financial reporting date prior to the measurement date over the associated service period of the award or the vesting event, applicable, which is generally the vesting term. Effective January 1, 2020, the Company began using the volatility of its own stock since it now has sufficient historic data in its stock price.

Subsequent Events - The Company's management reviewed all material events through the date these unaudited condensed consolidated financial statements were issued for subsequent events disclosure consideration, see other notes and specifically Note 8 - Subsequent Events.

Recent Accounting Pronouncements

In August 2018, the FASB issued Accounting Standards Update (ASU) No. 2018-13, Fair Value Measurement (Topic 820) (ASU 2018-13). ASU 2018-13 modifies the disclosure requirements on fair value measurements in ASC Topic 820, Fair Value Measurement, based on the concepts in the Concepts Statement, including the consideration of costs and benefits. The amendments in this ASU are effective for all entities for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2019. The Company's adoption of this pronouncement effective January 1, 2020 did not have a material impact on the Company's condensed consolidated financial statements.

In December 2019, the FASB issued ASU No. 2019-12, Income Taxes (Topic 740) (ASU 2019-12). ASU 2019-12 modifies the requirements for the timing of adoption of enacted change in tax law. The effects of changes on taxes currently payable or refundable for the current year must be reflected in the computation of annual effective tax rate in the first interim period that includes the enactment date of the new legislation, beginning after December 15, 2020. Early adoption is permitted upon issuance of this ASU. The Company is currently evaluating the impact that this standard will have, if any, on its financial statements.

In August 2020, the FASB issued ASU No. 2020-06, Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging - Contracts in Entity's Own Equity (Subtopic 815-40) (ASU 2020-06). ASU 2020-06 amends the guidance for the derivatives scope exception for contracts in an entity's own equity to reduce form-over-substance-based accounting conclusions. The Board observed that the application of the derivatives scope exception guidance results in accounting for some contracts as derivatives while accounting for economically similar contracts as equity. The Board also decided to improve and amend the related EPS guidance. The amendments in this Update are effective for public business entities that meet the definition of a Securities and Exchange Commission (SEC) filer, excluding entities eligible to be smaller reporting companies as defined by the SEC, for fiscal years beginning after December 15, 2021, including interim periods within those fiscal years. Early adoption is permitted, but no earlier than fiscal years beginning after December 15, 2020, including interim periods within those fiscal years. The Company is currently evaluating the impact that this standard will have, if any, on its financial statements.

The Company does not believe that any other recently issued effective pronouncements, or pronouncements issued but not yet effective, if adopted, would have a material effect on the accompanying condensed consolidated financial statements.

Note 3 - Accrued Expenses and Other Current Liabilities

Notes to Financial Statements

Accounts Payable, Accrued Liabilities, and Other Liabilities Disclosure, Current [Text Block]

9 Months Ended

Sep. 30, 2020

3. Accrued Expenses and Other Current Liabilities

Accrued expenses and other current liabilities consist of the following components (in thousands):

	September 30, 2020	December 31, 2019
Accrued chemistry manufacturing and control costs	$ 1,086	$ 49
Accrued clinical activities	311	93
Accrued payroll and bonuses	247	436
Operating lease liability - current	114	103
Related party payable	99	99
Accrued license fees and sponsored research agreements	95	201
Accrued legal, regulatory, and professional	87	272
Accrued other	56	164
Total accrued expenses and other current liabilities	$ 2,095	$ 1,417

Note 4 - Warrants

Notes to Financial Statements

Warrants Disclosure [Text Block]

9 Months Ended
Sep. 30, 2020

4. Warrants

At September 30, 2020, and December 31, 2019, respectively, the Company has the following warrants outstanding:

	Number of Shares Under Outstanding Warrants at September 30, 2020	Number of Shares Under Outstanding Warrants at December 31, 2019	Weighted Average Exercise Price at September 30, 2020	Remaining Contractual Life at September 30, 2020 (No. Years)
Liability Classified Warrants [1]				
Issued February 2017	404,002	404,002	$ 1.50	1.4
Issued February 2018	2,273,700	2,273,700	2.80	2.9
Issued June 2018 [2]	742,991	742,991	2.03	3.2
Issued March 2019	1,581,000	1,585,500	1.10	3.5
Issued April 2019	5,250,000	5,250,000	1.75	3.6
Issued February 2020	6,150,000	—	1.05	4.8
	16,401,693	10,256,193	$ 1.58	
Equity Classified Warrants				
Issued May 2016 - Bonwick	107,802	107,802	$ 7.50	0.6
Issued July 2017 - Consulting [3]	150,000	150,000	2.61	1.8
Issued April 2018 - Consulting	100,000	100,000	3.00	0.5
Issued August 2019 - Consulting	150,000	150,000	1.64	1.9
Issued April 2020 - Consulting	100,000	—	1.14	4.6
	607,802	507,802	$ 3.06	
Balance outstanding	17,009,495	10,763,995	$ 1.63	

[1] If the Company subdivides (by any stock split, stock dividend, recapitalization or otherwise) its outstanding shares of its common stock into a smaller number of shares, the warrant exercise price is proportionately reduced and the number of shares under outstanding warrants is proportionately increased. Additionally, if the Company combines (by combination, reverse stock split or otherwise) its outstanding shares of common stock into a smaller number of shares, the warrant exercise price is proportionately increased and the number of shares under outstanding warrants is proportionately decreased. Also, the Company may voluntarily reduce the warrant exercise price for its warrants issued in March 2019 and February 2017 and may voluntarily extend the contractual term of its warrants issued in February 2017.

[2] Includes warrants to purchase 710,212 shares at an exercise price of $2.02, expiring December 22, 2023, and warrants to purchase 32,779 shares at an exercise price of $2.32, expiring June 21, 2023.

[3] Includes warrants to purchase 100,000 shares at an exercise price of $2.41 and warrants to purchase 50,000 shares at an exercise price of $3.00.

Liability Classified Warrants

The Company uses the Black-Scholes option pricing model (BSM) to determine the fair value of its warrants at the date of issue and outstanding at each reporting date.

The risk-free interest rate assumption is based upon observed interest rates on zero coupon US Treasury bonds linearly interpolated to obtain a maturity period commensurate with the term of the warrants.

Estimated volatility is a measure of the amount by which the Company's stock price is expected to fluctuate each year during the expected life of the warrants. Beginning in 2020, only the volatility of the Company's own stock is used in the BSM as it now has sufficient historic data in its stock price. In 2019, the Company used the volatility of its own stock blended with the volatility of peer entities due to the lack of sufficient historical data of its stock price.

The assumptions used in determining the fair value of the Company's outstanding liability classified warrants are as follows:

	September 30, 2020	December 31, 2019
Risk-free interest rate	0.1% to 0.3%	1.6% to 1.7%
Volatility	112.5% to 124.1%	97.5% to 107.5%
Expected life (years)	1.4 to 4.9	2.1 to 4.3
Dividend yield	—%	—%

A summary of the Company's liability classified warrant activity during the nine months ended September 30, 2020 and related information follows:

	Number of Shares Under Warrant	Range of Warrant Exercise Price per Share		Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (Years)
Balance at January 1, 2020	10,256,193	$1.10	$2.80	$ 1.89	4.0
Granted	6,150,000	1.05	1.05	1.05	4.8
Exercised	(4,500)	1.10	1.10	1.10	—
Expired	—	—	—	—	—
Balance at September 30, 2020	16,401,693	$1.05	$2.80	$ 1.58	3.9
Vested and Exercisable at September 30, 2020	16,401,693	$1.10	$2.80	$ 1.89	3.9

In connection with the Company's stock offering that closed in February 2020, the Company issued warrants to purchase 5,625,000 shares of its common stock, that are exercisable six months from the date of issuance, at a price of $1.05 per share, subject to adjustment in certain circumstances, and expire five years from the date they are first exercisable, and issued Oppenheimer & Co. Inc. a warrant (Underwriter Warrant) to purchase up to 525,000 shares of its common stock with an exercise price of $1.05 per share, subject to adjustment in certain circumstances, which expires in February 2025.

For a summary of the changes in fair value associated with our warrant liability for the nine months ended September 30, 2020, see Note 2 - Basis of presentation, principles of consolidation and significant accounting policies - Fair Value of Financial Instruments.

Equity Classified Warrants

In April 2020, equity warrants to purchase up to 100,000 shares of common stock were issued to a consultant, with vesting contingent on certain conditions focused on generating up to $10 million of approved research and development expenditures on the Company's drug portfolio.

At September 30, 2020 the Company had 607,802 equity classified warrants outstanding and 512,802 warrants were exercisable. At December 31, 2019, the Company had 507,802 equity classified warrants outstanding and all were exercisable.

The Company recorded zero and $92,000 in stock compensation expense for non-employee consulting agreements for the three months ended September 30, 2020 and 2019, respectively, and $5,000 and $94,000 during the nine months ended September 30, 2020 and 2019, respectively. At September 30, 2020, there was $91,000 of unrecognized stock compensation expense related to the Company's equity-classified warrants.

Note 5 - Equity

Notes to Financial Statements

Stockholders' Equity Note Disclosure [Text Block]

9 Months Ended Sep. 30, 2020

5. Equity

July 2020 Stock Issuances

In July 2020, pursuant to the 2019 ATM Agreement, the Company issued 1,301,126 shares of common stock at an average price of $1.47 per share through the ATM Prospectus Supplement. The Company received total proceeds of $1.9 million, net of $0.1 million in transaction expenses. Previously, in April 2020, pursuant to the 2019 ATM Agreement, the Company issued 7,170,964 shares of common stock at an average price of $1.44 per share through the ATM Prospectus Supplement. The Company received total proceeds of $10.3 million, net of $0.3 million in transaction expenses.

February 2020 Stock Offering

In February 2020, the Company entered into subscription agreements with certain institutional investors for the sale by the Company of 7,500,000 shares of its common stock and warrants to purchase 5,625,000 shares of common stock at a combined public offering price of $0.80 per share and related warrant. The Company received total proceeds of $6.0 million, net of $0.7 million in transaction expenses. See Note 4 - Warrants for equity classified warrants granted during the nine months ended September 30, 2020.

Stock-based Compensation and Outstanding Awards

Under the terms of the Company's 2015 Stock Plan, as amended, and approved by its stockholders in June 2020, 10.5 million shares of the Company's common stock were available for grant to employees, non-employee directors and consultants. The 2015 Stock Plan provides for the grant of stock options, stock awards, stock unit awards, or stock appreciation rights. As of September 30, 2020, there were 4,409,132 shares remaining to be issued under the 2015 Stock Plan.

Stock-based compensation for the three and nine months ended September 30, 2020 and 2019, respectively (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2020	2019	2020	2019
General and administrative	$ 366	$ 430	$ 1,029	$ 1,003
Research and development	94	59	236	152
Total Stock-based Compensation Expense	$ 460	$ 489	$ 1,265	$ 1,155

Each of the Company's stock-based compensation arrangements are discussed below.

Stock Options

Stock option awards are generally granted with an exercise price equal to the market price of the Company's stock at the date of grant. Stock option awards generally have a 10-year contractual term and vest over a 4-year period for employees and over a 1 to 3-year period for directors from the grant date on a straight-line basis over the requisite service period. The grant-date fair value of stock options is determined using the Black-Scholes option-pricing model. Additionally, the Company's stock options provide for full vesting of unvested outstanding options, in the event of a change of control of the Company.

The fair value of each stock option is estimated on the date of grant using the Black-Scholes option valuation model that uses the assumptions noted below. The expected term of the stock option awards was computed using the "plain vanilla" method as prescribed by the Securities and Exchange Commission Staff Accounting Bulletin 107 because the Company does not have sufficient data regarding employee exercise behavior to estimate the expected term. Beginning in 2020, the Company used the volatility of its own stock in the BSM as it now has sufficient historic data in its stock price. Prior to 2020, the volatility was determined by referring to the average historical volatility of a peer group of public companies combined with its own due to the lack of sufficient historical data of its stock price. The risk-free rate for periods within the contractual life of the option is based on the U.S. Treasury yield curve in effect at the time of grant.

The fair value of the option grants has been estimated, with the following weighted-average assumptions:

	Nine Months Ended September 30,	
Stock Option Assumptions:	**2020**	**2019**
Risk-free interest rate	0.2% to 0.5%	1.0% to 1.3%
Expected volatility of common stock	125.4% to 128.0%	85% to 100%
Expected life (years)	3.8 to 6.3	5.3 to 6.3
Expected dividend yield	—%	—%

Stock option activity for the nine months ended September 30, 2020 is as follows:

	Number of Shares	Weighted Average Grant Date Fair Value	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value
Outstanding, December 31, 2019	3,836,000	$ 1.59	$ 2.26	8.3	$ —
Granted	1,554,750	$ 0.83	$ 0.95		
Exercised	—	$ —	$ —		
Forfeited	(20,000)	$ 0.89	$ 1.06		
Outstanding, September 30, 2020	5,370,750	$ 1.37	$ 1.88	8.1	$ —
Exercisable, September 30, 2020	1,978,917	$ 1.91	$ 2.79	7.2	$ —

Options granted during 2020 have an aggregated fair value of $1.3 million that was calculated using the Black-Scholes option-pricing model. At September 30, 2020, total compensation cost not yet recognized was $3.0 million and the weighted average period over which this amount is expected to be recognized is 2.65 years. The aggregate fair value of options vesting in the nine months ended September 30, 2020 and 2019, respectively, was $1.2 million and $1.0 million, respectively. In July 2020, the Company granted 1,349,750 employee stock options. In August 2020, the Company issued 100,000 options to Dr. Waldemar Priebe, one of the Company's founders and chair of our Scientific Advisory Board. In October 2020, the Company granted 40,000 stock options, with 3-year annual vesting upon appointment of Elizabeth Cermak to the Company's Board of Director's.

Restricted Stock

Restricted stock units are granted with a grant date fair value determined using the closing price of the Company's common stock on the grant date. Restricted stock units vest annually in four equal installments. Additionally, the Company's restricted stock unit agreements provide for full vesting of the restricted stock award in the event of a change of control of the Company.

Restricted stock unit activity for the nine months ended September 30, 2020 is as follows:

	Number of Shares	Weighted Average Grant Date Fair Value	Weighted Average Remaining Contractual Term (in years)
Unvested Shares, December 31, 2019	316,907	$ 1.31	3.5
Granted	353,211	$ 0.93	
Vested	(79,227)	$ 1.31	
Unvested Shares, September 30, 2020	590,891	$ 1.08	3.3

As of September 30, 2020, total compensation cost not yet recognized was $0.6 million and the weighted average period over which this amount is expected to be recognized is 3.3 years.

Note 6 - Income Taxes

9 Months Ended
Sep. 30, 2020

Notes to Financial Statements

Income Tax Disclosure [Text Block]

6. Income Taxes

Deferred income tax assets and liabilities are determined based upon differences between the financial reporting and tax basis of assets and liabilities and are measured using the enacted tax rates and laws that will be in effect when the differences are expected to reverse. The Company does not expect to pay any significant federal, state, or foreign income taxes in 2020 as a result of the losses recorded during the three and nine months ended September 30, 2020 and the additional losses expected for the remainder of 2020 and cumulative net operating loss carryforwards. Accounting standards require the consideration of a valuation allowance for deferred tax assets if it is “more likely than not” that some component or all of the benefits of deferred tax assets will not be realized. As a result, as of September 30, 2020, the Company maintained a full valuation allowance for all deferred tax assets.

The Company recorded an income tax provision of zero and $229,000 for the three and nine months ended September 30, 2020 and 2019, respectively. The effective tax rate for the three months ended September 30, 2020 and 2019 is 0% and 5.2%, respectively. The effective tax rate for the nine months ended September 30, 2020 and 2019 is 0% and 1.4%, respectively. The total income tax benefit for the nine months ended September 30, 2019 was comprised of research and development tax credits recoverable, associated with Moleculin Australia Pty. Ltd, (MAPL), a wholly-owned subsidiary formed in June 2018, related to preclinical development in Australia. There were no research and development tax credits for the nine months ended September 30, 2020. The income tax rates vary from the federal and state statutory rates primarily due to the change in fair value of the stock warrants and valuation allowances on the Company’s deferred tax assets. The Company estimates its annual effective tax rate at the end of each quarterly period. Jurisdictions with a projected loss for the year where no tax benefit can be recognized due to the valuation allowance could result in a higher or lower effective tax rate during a particular quarter depending on the mix and timing of actual earnings versus annual projections.

On March 27, 2020, Congress enacted the Coronavirus Aid, Relief, and Economic Security Act (CARES Act) to provide certain relief as a result of the COVID-19 pandemic. The CARES Act, among other things, includes provisions relating to net operating loss carry back periods, alternative minimum tax credit refunds, and modification to the net interest deduction limitations. The CARES Act did not have a material impact on the Company's condensed consolidated financial statements for the nine months ended September 30, 2020. The Company continues to monitor any effects that may result from the CARES Act.

Note 7 - Commitments and Contingencies

Notes to Financial Statements

Commitments and Contingencies Disclosure [Text Block]

9 Months Ended Sep. 30, 2020

7. Commitments and Contingencies

In addition to the commitments and contingencies described elsewhere in these notes, see below for a discussion of the Company's commitments and contingencies as of September 30, 2020.

Lease Obligations Payable

During the nine months ended September 30, 2020, the Company did not enter into any lease arrangements requiring any additional right-of-use assets or liabilities to be recorded.

The following summarizes quantitative information about the Company's operating leases for the three and nine months ended September 30, 2020 and 2019, respectively (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2020	2019	2020	2019
Lease cost:				
Operating lease cost	$ 29	$ 15	$ 87	$ 31
Short-term lease cost	4	12	13	38
Variable lease cost	7	7	22	19
Total	$ 40	$ 34	$ 122	$ 88

The Company recorded approximately $10,000 and $31,000 in sublease income from a related party for the three and nine months ended September 30, 2020, respectively. Sublease income is recorded as other income, net on the Company's condensed consolidated statement of operations and comprehensive loss.

Other supplemental cash flow information for operating leases is as follows (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2020	2019	2020	2019
Cash paid for amounts included in the measurement of lease liabilities:				
Operating cash flows from operating leases	$ 34	$ 20	$ 100	$ 41
Right-of-use assets obtained in exchange for lease liabilities:				
Operating leases	$ —	$ 212	$ —	$ 321

At September 30, 2020, future minimum liabilities under ASC 842 for the Company's operating leases were as follows (in thousands):

Maturity of lease liabilities	**As of September 30, 2020**
2020 (remaining three months)	$ 34
2021	138
2022	105
2023	56

2024	10
2025 and thereafter	—
Total lease payments	343
Less: imputed interest	(39)
Present value of operating lease liabilities	$ 304

As of September 30, 2020, the weighted average remaining lease term for operating leases is 2.7 years, and the weighted average discount rate is 9.6%. The interest rate implicit in lease contracts is typically not readily determinable and as such, the Company uses an incremental borrowing rate based on a peer analysis using information available at the commencement date, which represents an internally developed rate that would be incurred to borrow, on a collateralized basis, over a similar term, an amount equal to the lease payments in a similar economic environment.

Licenses

MD Anderson - Total expenses related to the Company's license agreements with MD Anderson were $61,000 and $60,000 for the three months ended September 30, 2020 and 2019, respectively, and $183,000 and $180,000 for the nine months ended September 30, 2020 and 2019, respectively.

HPI - On March 16, 2020, the Company entered into two agreements with a related party, Houston Pharmaceuticals, Inc. (HPI). The first agreement, which has a term of two years, continues a prior consulting arrangement with HPI on the Company's licensed molecules and requires payments for $43,500 per quarter to HPI. The second agreement, which can be cancelled with sixty days' notice by either party, allows the Company's employees access to laboratory equipment owned by HPI for a payment of $15,000 per quarter to HPI. Total expenses related to the Company's agreements with HPI were $59,000 and zero for the three months ended September 30, 2020 and 2019, respectively, and $226,000 and $75,000 for the nine months ended September 30, 2020 and 2019, respectively.

Sponsored Research Agreements with MD Anderson - MBI entered into a Sponsored Laboratory Study Agreement with MD Anderson expiring in October 2021. The expenses recognized under this MD Anderson agreement with regards to the Sponsored Laboratory Study Agreement were $212,000 and $177,000 for the three months ended September 30, 2020 and 2019, respectively, and $537,000 and $366,000 for the nine months ended September 30, 2020 and 2019, respectively.

Note 8 - Subsequent Events

9 Months Ended
Sep. 30, 2020

Notes to Financial Statements

Subsequent Events [Text Block]

8. Subsequent Events

In addition to the subsequent events discussed elsewhere in these notes, see below for a discussion of our subsequent events occurring after September 30, 2020.

2020 ATM Agreement - As previously reported, in July 2020, the Company entered into an At Market Issuance Sales Agreement (Agreement) with Oppenheimer & Co. Inc. (2020 ATM Agreement). Pursuant to the terms of the Agreement, the Company may sell from time to time through Oppenheimer shares of the Company's common stock with an aggregate sales price of up to $15.0 million. In October 2020, the Company issued 700,339 shares of common stock at an average price of $0.83 per share through the 2020 ATM Agreement, resulting in net proceeds to the Company of $0.6 million. The Company paid a commission to Oppenheimer equal to 3.0% of the gross proceeds from the sale of its common stock under the 2020 ATM Agreement. The 2019 ATM Agreement expired at the end of the third quarter.

2020 Lincoln Park Equity Line - On November 11, 2020, the Company entered into a purchase agreement (the "2020 Purchase Agreement") and a registration rights agreement (the "2020 Registration Rights Agreement") with Lincoln Park Capital Fund, LLC ("Lincoln Park"). Pursuant to the terms of the 2020 Purchase Agreement, Lincoln Park has agreed to purchase from the Company up to $22.0 million of the Company's common stock (subject to certain limitations) from time to time during the term of the 2020 Purchase Agreement. Pursuant to the terms of the 2020 Registration Rights Agreement, the Company filed with the SEC a registration statement to register the shares that have been or may be issued to Lincoln Park under the 2020 Purchase Agreement.

Pursuant to the terms of the 2020 Purchase Agreement, at the time the Company signed the 2020 Purchase Agreement and the 2020 Registration Rights Agreement, the Company issued 760,194 shares of common stock to Lincoln Park as consideration for its commitment to purchase shares of our common stock under the 2020 Purchase Agreement and may issue an additional 304,077 shares pro-rata when and if Lincoln Park purchases (at the Company's discretion) the $22.0 million aggregate commitment.

On November 12, 2020, the Company sold Lincoln Park at $0.707 per share 2,829,214 shares of common stock for aggregate consideration of $2.0 million, and issued 27,643 in additional commitment shares.

On November 11, 2020, the Company terminated its purchase agreement dated October 4, 2018 with Lincoln Park.

Significant Accounting Policies (Policies)	9 Months Ended Sep. 30, 2020
Accounting Policies [Abstract]	
Basis of Accounting, Policy [Policy Text Block]	**Basis of Presentation – Unaudited Interim Condensed Consolidated Financial Information -** The accompanying unaudited interim condensed consolidated financial statements and related notes have been prepared in accordance with accounting principles generally accepted in the US (U.S. GAAP) for financial information, and in accordance with the rules and regulations of the US Securities and Exchange Commission (SEC) with respect to Form 10-Q and Article 8 of Regulation S-X. Accordingly, they do not include all of the information and footnotes required by U.S. GAAP for complete financial statements. The unaudited interim condensed consolidated financial statements furnished reflect all adjustments (consisting of normal recurring adjustments), which are, in the opinion of management, necessary for a fair statement of results for the interim periods presented. Interim results are not necessarily indicative of the results for the full year. These interim condensed unaudited consolidated financial statements should be read in conjunction with the audited financial statements of the Company as of December 31, 2019 and December 31, 2018 and notes thereto contained in the Form 10-K filed with the SEC on March 19, 2020.
Consolidation, Policy [Policy Text Block]	**Principles of consolidation** - The accompanying unaudited condensed consolidated financial statements include the accounts of the Company and its wholly owned subsidiary. All intercompany balances and transactions have been eliminated in consolidation. Any reference in these notes to applicable guidance is meant to refer to U.S. GAAP. The company views its operations and manages its business in one operating segment. All long-lived assets of the Company reside in the US.
Use of Estimates, Policy [Policy Text Block]	**Use of Estimates -** The preparation of these condensed consolidated financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of expenses during the reporting period. Actual results could differ from those estimates. Management considers many factors in selecting appropriate financial accounting policies and controls, and in developing the estimates and assumptions that are used in the preparation of these financial statements. Management must apply significant judgment in this process. In addition, other factors may affect estimates, including expected business and operational changes, sensitivity and volatility associated with the assumptions used in developing estimates, and whether historical trends are expected to be representative of future trends. The estimation process often may yield a range of potentially reasonable estimates of the ultimate future outcomes and management must select an amount that falls within that range of reasonable estimates. This process may result in actual results differing materially from those estimated amounts used in the preparation of financial statements. Estimates are used in the following areas, among others: fair value estimates on intangible assets, warrants, and stock-based compensation expense, as well as accrued expenses and taxes.
Going Concern Policy [Policy Text Block]	**Going Concern -** These condensed consolidated financial statements have been prepared on a going concern basis, which assumes the Company will continue to realize its assets and discharge its liabilities in the normal course of business. The continuation of the Company as a going concern is dependent upon the ability of the Company to obtain necessary equity financing to continue operations and the attainment of profitable operations. As of September 30, 2020, the Company has incurred an accumulated deficit of $54.3 million since inception and had not yet generated any revenue from operations. Additionally, management anticipates that its cash on hand as of September 30, 2020, is sufficient to fund its planned operations into but not beyond the near term. These factors raise substantial doubt regarding the Company's ability to continue as a going concern. These unaudited condensed consolidated financial statements do not include any adjustments to the recoverability and classification of recorded asset amounts and classification of liabilities that might be necessary should the Company be unable to continue as a going concern. The Company may seek additional funding through a combination of equity offerings, debt financings, government or other third-party funding, commercialization, marketing

and distribution arrangements, other collaborations, strategic alliances and licensing arrangements and delay planned cash outlays or a combination thereof. Management cannot be certain that such events or a combination thereof can be achieved.

Cash and Cash Equivalents, Policy [Policy Text Block]

Cash and Cash Equivalents - The Company considers all highly liquid accounts with original maturities of three months or less at the date of acquisition to be cash equivalents. Periodically in the ordinary course of business, the Company may carry cash balances at financial institutions in excess of the Federally insured limits of $250,000.

Goodwill and Intangible Assets, Intangible Assets, Policy [Policy Text Block]

Intangible Assets - Intangible assets with finite lives are amortized using the straight-line method over their estimated period of benefit. Acquired intangible assets identified as in-process research and development (IPR&D) assets, are considered indefinite lived until the completion or abandonment of the associated research and development efforts. If the associated research and development effort is abandoned, the related IPR&D assets will be written-off and the Company will record a noncash impairment loss on its statements of operations. For those compounds that reach commercialization, the IPR&D assets will be amortized over their estimated useful lives. The Company evaluates the recoverability of intangible assets periodically and take into account events or circumstances that warrant revised estimates of useful lives or that indicate that impairment exists. No impairments of intangible assets have been identified during any of the periods presented. Intangible assets are tested for impairment on an annual basis, and between annual tests if indicators of potential impairment exist, using a fair-value-based approach.

Property, Plant and Equipment, Policy [Policy Text Block]

Property and Equipment, net - Leasehold improvements, furniture, equipment and software are recorded at cost and are depreciated using the straight-line method over the estimated useful lives of the related assets. Leasehold improvements are amortized over the shorter of the estimated useful life or the remaining lease term. Accumulated depreciation on property and equipment was $0.4 million and $0.3 million at September 30, 2020 and December 31, 2019, respectively.

Lessee, Leases [Policy Text Block]

Operating Lease Right-of-Use Asset - The Company determines if an arrangement is a lease at contract inception or during modifications or renewal of an existing lease. Operating lease assets represent the Company's right to use an underlying asset for the lease term and operating lease liabilities represent the Company's obligation to make lease payments arising from the lease. Operating lease assets and liabilities are recognized at the commencement date of the lease based upon the present value of lease payments over the lease term. The lease payments used to determine the Company's operating lease assets may include lease incentives, stated rent increases and escalation clauses linked to rates of inflation when determinable and are recognized in the Company's operating lease assets in the Company's condensed consolidated balance sheet. The Company has elected the practical expedient and does not separate lease components from nonlease components for its leases. The Company's operating leases are reflected in operating lease right-of-use asset (ROU), accrued expenses and other current liabilities, and operating lease liability - long-term, net of current portion in the Company's condensed consolidated balance sheets. Lease expense for minimum lease payments is recognized on a straight-line basis over the lease term. Short-term leases, defined as leases that have a lease term of 12 months or less at the commencement date, are excluded from this treatment and are recognized on a straight-line basis over the term of the lease. Refer to Note 7 - Commitments and Contingencies - Lease Obligations Payable for additional information related to the Company’s operating leases.

Investment, Policy [Policy Text Block]

Cost Method Investment - The Company's cost method investment consists of an investment in a corporation in which it does not have the ability to exercise significant influence over its operating and financial activities. Management evaluates this investment for possible impairment quarterly.

Fair Value of Financial Instruments, Policy [Policy Text Block]

Fair Value of Financial Instruments - The Company's financial instruments consist primarily of non-trade receivables, accounts payable, accrued expenses and its warrant liability. The carrying amount of non-trade receivables, accounts payable, and accrued expenses approximates their fair value because of the short-term maturity of such.

The Company has categorized its assets and liabilities that are valued at fair value on a recurring basis into a three-level fair value hierarchy in accordance with U.S. GAAP. Fair value is defined as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. The fair value hierarchy gives the highest priority to quoted prices in active markets for identical assets and liabilities (Level 1) and lowest priority to unobservable inputs (Level 3).

Assets and liabilities recorded in the balance sheets at fair value are categorized based on a hierarchy of inputs as follows:

Level 1 – Unadjusted quoted prices in active markets of identical assets or liabilities.
Level 2 – Quoted prices for similar assets or liabilities in active markets or inputs that are observable for the asset or liability, either directly or indirectly through market corroboration, for substantially the full term of the financial instrument.
Level 3 – Unobservable inputs for the asset or liability.

The Company's financial assets and liabilities recorded at fair value on a recurring basis include the fair value of warrant liability discussed in Note 4.

The following table provides assets and liabilities reported at fair value and measured on a recurring basis at September 30, 2020 and December 31, 2019 (in thousands):

Description	Liabilities Measured at Fair Value	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Other Unobservable Inputs (Level 3)
Fair value of warrant liability as of September 30, 2020:	$ 9,049	$ —	$ —	$ 9,049
Fair value of warrant liability as of December 31, 2019:	$ 5,818	$ —	$ —	$ 5,818

The table below (in thousands) of Level 3 liabilities begins with the valuation as of the beginning of the third quarter and then is adjusted for the issuances and exercises that occurred during the third quarter of 2020 and adjusts for balances for changes in fair value that occurred during the current quarter. The ending balance of the Level 3 financial instrument presented above represents our best estimates and may not be substantiated by comparison to independent markets and, in many cases, could not be realized in immediate settlement of the instruments.

Three Months Ended September 30, 2020	Warrant Liability Current	Warrant Liability Long-Term	Warrant Liability Total
Balance, June 30, 2020	$ —	$ 11,792	$ 11,792
Exercise of warrants	—	—	—
Change in fair value - net	—	(2,743)	(2,743)
Balance, September 30, 2020	$ —	$ 9,049	$ 9,049

The table below (in thousands) of Level 3 liabilities begins with the valuation as of December 31, 2019 and then is adjusted for the issuances and exercises, and changes in fair value that occurred during the nine months ended September 30, 2020. The ending balance of the Level 3 financial instrument presented above represents our best estimates and may not be substantiated by comparison to independent markets and, in many cases, could not be realized in immediate settlement of the instruments.

Nine Months Ended September 30, 2020	Warrant Liability Current	Warrant Liability Long-Term	Warrant Liability Total
Balance, December 31, 2019	$ —	$ 5,818	$ 5,818
Issuances of warrants	—	4,724	4,724
Exercise of warrants	—	(4)	(4)
Change in fair value - net	—	(1,489)	(1,489)
Balance, September 30, 2020	$ —	$ 9,049	$ 9,049

Earnings Per Share, Policy [Policy Text Block]

Loss Per Common Share - Basic net loss per common share is computed by dividing net loss available to common shareholders by the weighted-average number of common shares outstanding during the period. For purposes of this calculation, options to purchase common stock, restricted stock units subject to vesting and warrants to purchase common stock are considered to be common stock equivalents. Diluted net loss per common share is determined using the weighted-average number of common shares outstanding during the period, adjusted for the dilutive effect of common stock equivalents. In periods when losses are reported, the weighted-average number of common shares outstanding excludes common stock equivalents, because their inclusion would be antidilutive. For the three months ended September 30, 2020 and 2019, approximately 22.9 million and approximately 14.7 million, respectively, of potentially dilutive shares were excluded from the computation of diluted earnings per share due to their antidilutive effect. For the nine months ended September 30, 2020 and 2019, approximately 20.8 million and approximately 11.3 million, respectively, of potentially dilutive shares were excluded from the computation of diluted earnings per share due to their antidilutive effect.

Share-based Payment Arrangement [Policy Text Block]

Stock-based Compensation - Stock-based compensation expense includes the estimated fair value of equity awards vested or expected to vest during the reporting period. The Company accounts for its stock-based compensation awards in accordance with Financial Accounting Standards Board (FASB) Accounting Standards Codification Topic (ASC) 718, Compensation—Stock Compensation (ASC 718). ASC 718 requires all stock-based payments to employees, including grants of employee stock options, restricted stock units, and modifications to existing stock options, to be recognized in the consolidated statements of operations based on their fair values. The grant date fair value of stock options is determined using the Black-Scholes option pricing model and the grant date fair value of restricted stock awards is determined using the closing price of the Company's common stock on the date of grant (or if the date of grant is not a business day, on the business day prior to the date of the grant). The awards are subject to service vesting conditions. Compensation expense related to awards to employees and directors with service-based vesting conditions is recognized on a straight-line basis based on the grant date fair value over the associated service period of the award, which is generally the vesting term, net of forfeitures which are recognized as they occur. Compensation expense related to awards to non-employees with service-based vesting conditions is recognized based on the then-current fair value at each financial reporting date prior to the measurement date over the associated service period of the award or the vesting event, applicable, which is generally the vesting term. Effective January 1, 2020, the Company began using the volatility of its own stock since it now has sufficient historic data in its stock price.

Subsequent Events, Policy [Policy Text Block]

Subsequent Events - The Company's management reviewed all material events through the date these unaudited condensed consolidated financial statements were issued for subsequent events disclosure consideration, see other notes and specifically Note 8 - Subsequent Events.

New Accounting Pronouncements, Policy [Policy Text Block]

Recent Accounting Pronouncements

In August 2018, the FASB issued Accounting Standards Update (ASU) No. 2018-13, Fair Value Measurement (Topic 820) (ASU 2018-13). ASU 2018-13 modifies the disclosure requirements on fair value measurements in ASC Topic 820, Fair Value Measurement, based on the concepts in the Concepts Statement, including the consideration of costs and benefits. The amendments in this ASU are effective for all entities for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2019. The Company's adoption of this

pronouncement effective January 1, 2020 did not have a material impact on the Company's condensed consolidated financial statements.

In December 2019, the FASB issued ASU No. 2019-12, Income Taxes (Topic 740) (ASU 2019-12). ASU 2019-12 modifies the requirements for the timing of adoption of enacted change in tax law. The effects of changes on taxes currently payable or refundable for the current year must be reflected in the computation of annual effective tax rate in the first interim period that includes the enactment date of the new legislation, beginning after December 15, 2020. Early adoption is permitted upon issuance of this ASU. The Company is currently evaluating the impact that this standard will have, if any, on its financial statements.

In August 2020, the FASB issued ASU No. 2020-06, Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging - Contracts in Entity's Own Equity (Subtopic 815-40) (ASU 2020-06). ASU 2020-06 amends the guidance for the derivatives scope exception for contracts in an entity's own equity to reduce form-over-substance-based accounting conclusions. The Board observed that the application of the derivatives scope exception guidance results in accounting for some contracts as derivatives while accounting for economically similar contracts as equity. The Board also decided to improve and amend the related EPS guidance. The amendments in this Update are effective for public business entities that meet the definition of a Securities and Exchange Commission (SEC) filer, excluding entities eligible to be smaller reporting companies as defined by the SEC, for fiscal years beginning after December 15, 2021, including interim periods within those fiscal years. Early adoption is permitted, but no earlier than fiscal years beginning after December 15, 2020, including interim periods within those fiscal years. The Company is currently evaluating the impact that this standard will have, if any, on its financial statements.

The Company does not believe that any other recently issued effective pronouncements, or pronouncements issued but not yet effective, if adopted, would have a material effect on the accompanying condensed consolidated financial statements.

Note 2 - Basis of Presentation, Principles of Consolidation and Significant Accounting Policies (Tables)

9 Months Ended

Sep. 30, 2020

Notes Tables

Deferred Costs, Capitalized, Prepaid, and Other Assets Disclosure [Table Text Block]

	September 30, 2020	December 31, 2019
Vendor prepayments and deposits	$ 1,312	$ 1,857
Prepaid insurance	880	352
Other current assets	257	529
Related party receivables	5	10
Non-trade receivables	1	1
Total prepaid expenses and other current assets	$ 2,455	$ 2,749

Fair Value Measurements, Recurring and Nonrecurring [Table Text Block]

Description	Liabilities Measured at Fair Value	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Other Unobservable Inputs (Level 3)
Fair value of warrant liability as of September 30, 2020:	$ 9,049	$ —	$ —	$ 9,049
Fair value of warrant liability as of December 31, 2019:	$ 5,818	$ —	$ —	$ 5,818

Fair Value, Liabilities Measured on Recurring Basis, Unobservable Input Reconciliation [Table Text Block]

Three Months Ended September 30, 2020	Warrant Liability Current	Warrant Liability Long-Term	Warrant Liability Total
Balance, June 30, 2020	$ —	$ 11,792	$ 11,792
Exercise of warrants	—	—	—
Change in fair value - net	—	(2,743)	(2,743)
Balance, September 30, 2020	$ —	$ 9,049	$ 9,049

Nine Months Ended September 30, 2020	Warrant Liability Current	Warrant Liability Long-Term	Warrant Liability Total
Balance, December 31, 2019	$ —	$ 5,818	$ 5,818
Issuances of warrants	—	4,724	4,724
Exercise of warrants	—	(4)	(4)
Change in fair value - net	—	(1,489)	(1,489)
Balance, September 30, 2020	$ —	$ 9,049	$ 9,049

Note 3 - Accrued Expenses and Other Current Liabilities (Tables)

9 Months Ended

Sep. 30, 2020

Notes Tables

Schedule of Accrued Liabilities [Table Text Block]

	September 30, 2020	December 31, 2019
Accrued chemistry manufacturing and control costs	$ 1,086	$ 49
Accrued clinical activities	311	93
Accrued payroll and bonuses	247	436
Operating lease liability - current	114	103
Related party payable	99	99
Accrued license fees and sponsored research agreements	95	201
Accrued legal, regulatory, and professional	87	272
Accrued other	56	164
Total accrued expenses and other current liabilities	$ 2,095	$ 1,417

Note 4 - Warrants (Tables)

Notes Tables

Schedule of Stockholders' Equity Note, Warrants or Rights [Table Text Block]

	9 Months Ended Sep. 30, 2020			
	Number of Shares Under Outstanding Warrants at September 30, 2020	Number of Shares Under Outstanding Warrants at December 31, 2019	Weighted Average Exercise Price at September 30, 2020	Remaining Contractual Life at September 30, 2020 (No. Years)
Liability Classified Warrants (1)				
Issued February 2017	404,002	404,002	$ 1.50	1.4
Issued February 2018	2,273,700	2,273,700	2.80	2.9
Issued June 2018 (2)	742,991	742,991	2.03	3.2
Issued March 2019	1,581,000	1,585,500	1.10	3.5
Issued April 2019	5,250,000	5,250,000	1.75	3.6
Issued February 2020	6,150,000	—	1.05	4.8
	16,401,693	10,256,193	$ 1.58	
Equity Classified Warrants				
Issued May 2016 - Bonwick	107,802	107,802	$ 7.50	0.6
Issued July 2017 - Consulting (3)	150,000	150,000	2.61	1.8
Issued April 2018 - Consulting	100,000	100,000	3.00	0.5
Issued August 2019 - Consulting	150,000	150,000	1.64	1.9
Issued April 2020 - Consulting	100,000	—	1.14	4.6
	607,802	507,802	$ 3.06	
Balance outstanding	17,009,495	10,763,995	$ 1.63	

Schedule of Warrants or Rights, Assumptions Used [Table Text Block]

	September 30, 2020	December 31, 2019
Risk-free interest rate	0.1% to 0.3%	1.6% to 1.7%
Volatility	112.5% to 124.1%	97.5% to 107.5%
Expected life (years)	1.4 to 4.9	2.1 to 4.3
Dividend yield	—%	—%

Schedule of Warrant Activity [Table Text Block]

	Number of Shares Under Warrant	Range of Warrant Exercise Price per Share		Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (Years)
Balance at January 1, 2020	10,256,193	$1.10	$2.80	$ 1.89	4.0
Granted	6,150,000	1.05	1.05	1.05	4.8
Exercised	(4,500)	1.10	1.10	1.10	—
Expired	—	—	—	—	—
Balance at September 30, 2020	16,401,693	$1.05	$2.80	$ 1.58	3.9
Vested and Exercisable at September 30, 2020	16,401,693	$1.10	$2.80	$ 1.89	3.9

Note 5 - Equity (Tables)

9 Months Ended
Sep. 30, 2020

Notes Tables

Share-based Payment Arrangement, Expensed and Capitalized, Amount [Table Text Block]

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2020	2019	2020	2019
General and administrative	$ 366	$ 430	$ 1,029	$ 1,003
Research and development	94	59	236	152
Total Stock-based Compensation Expense	$ 460	$ 489	$ 1,265	$ 1,155

Schedule of Share-based Payment Award, Stock Options, Valuation Assumptions [Table Text Block]

Stock Option Assumptions:	Nine Months Ended September 30, 2020	2019
Risk-free interest rate	0.2% to 0.5%	1.0% to 1.3%
Expected volatility of common stock	125.4% to 128.0%	85% to 100%
Expected life (years)	3.8 to 6.3	5.3 to 6.3
Expected dividend yield	—%	—%

Share-based Payment Arrangement, Option, Activity [Table Text Block]

	Number of Shares	Weighted Average Grant Date Fair Value	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value
Outstanding, December 31, 2019	3,836,000	$ 1.59	$ 2.26	8.3	$ —
Granted	1,554,750	$ 0.83	$ 0.95		
Exercised	—	$ —	$ —		
Forfeited	(20,000)	$ 0.89	$ 1.06		
Outstanding, September 30, 2020	5,370,750	$ 1.37	$ 1.88	8.1	$ —
Exercisable, September 30, 2020	1,978,917	$ 1.91	$ 2.79	7.2	$ —

Schedule of Nonvested Restricted Stock Units Activity [Table Text Block]

	Number of Shares	Weighted Average Grant Date Fair Value	Weighted Average Remaining Contractual Term (in years)
Unvested Shares, December 31, 2019	316,907	$ 1.31	3.5
Granted	353,211	$ 0.93	
Vested	(79,227)	$ 1.31	
Unvested Shares, September 30, 2020	590,891	$ 1.08	3.3

Note 7 - Commitments and Contingencies (Tables)

9 Months Ended
Sep. 30, 2020

Notes Tables

Lease, Cost [Table Text Block]

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2020	2019	2020	2019
Lease cost:				
Operating lease cost	$ 29	$ 15	$ 87	$ 31
Short-term lease cost	4	12	13	38
Variable lease cost	7	7	22	19
Total	$ 40	$ 34	$ 122	$ 88

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2020	2019	2020	2019
Cash paid for amounts included in the measurement of lease liabilities:				
Operating cash flows from operating leases	$ 34	$ 20	$ 100	$ 41
Right-of-use assets obtained in exchange for lease liabilities:				
Operating leases	$ —	$ 212	$ —	$ 321

Lessee, Operating Lease, Liability, Maturity [Table Text Block]

Maturity of lease liabilities	As of September 30, 2020
2020 (remaining three months)	$ 34
2021	138
2022	105
2023	56
2024	10
2025 and thereafter	—
Total lease payments	343
Less: imputed interest	(39)
Present value of operating lease liabilities	$ 304

Note 1 - Nature of Business and Liquidity (Details Textual)	Sep. 30, 2020
Number of Core Drug Technologies	3
Number of Drug Candidates	5
Number of Approaches to Treating Cancer of Drug Candidates	3
Animal Life Sciences, Inc [Member]	
Equity Method Investment, Ownership Percentage	10.00%

Note 2 - Basis of Presentation, Principles of Consolidation and Significant Accounting Policies (Details Textual) $ in Thousands, shares in Millions	3 Months Ended		9 Months Ended		12 Months Ended
	Sep. 30, 2020 USD ($) shares	Sep. 30, 2019 shares	Sep. 30, 2020 USD ($) shares	Sep. 30, 2019 shares	Dec. 31, 2019 USD ($)
Number of Operating Segments			1		
Retained Earnings (Accumulated Deficit), Ending Balance	$ (54,277)		$ (54,277)		$ (39,561)
Impairment of Intangible Assets (Excluding Goodwill), Total			0		0
Accumulated Depreciation, Depletion and Amortization, Property, Plant, and Equipment, Ending Balance	$ 400		$ 400		300
Antidilutive Securities Excluded from Computation of Earnings Per Share, Amount (in shares) | shares	22.9	14.7	20.8	11.3	
Annamycin [Member]					
Vendor Prepayments and Deposits, Expansion of Production Commitments	$ 1,100		$ 1,100		$ 1,500

Note 2 - Basis of Presentation, Principles of Consolidation and Significant Accounting Policies - Prepaid Expenses and Other Current Assets (Details) - USD ($) $ in Thousands	Sep. 30, 2020	Dec. 31, 2019
Vendor prepayments and deposits	$ 1,312	$ 1,857
Prepaid insurance	880	352
Other current assets	257	529
Related party receivables	5	10
Non-trade receivables	1	1
Total prepaid expenses and other current assets	$ 2,455	$ 2,749

Note 2 - Basis of Presentation, Principles of Consolidation and Significant Accounting Policies - Assets and Liabilities at Fair Value Measured on a Recurring Basis (Details) - USD ($) $ in Thousands	Sep. 30, 2020	Dec. 31, 2019
Fair value of warrant liability	$ 9,049	$ 5,818
Fair Value, Inputs, Level 1 [Member]		
Fair value of warrant liability	0	0
Fair Value, Inputs, Level 2 [Member]		
Fair value of warrant liability	0	0
Fair Value, Inputs, Level 3 [Member]		
Fair value of warrant liability	$ 9,049	$ 5,818

Note 2 - Basis of Presentation, Principles of Consolidation and Significant Accounting Policies - Level 3 Liabilities (Details) - Fair Value, Inputs, Level 3 [Member] - USD ($) $ in Thousands	3 Months Ended Sep. 30, 2020	9 Months Ended Sep. 30, 2020
Warrant Liability Current [Member]		
Balance	$ 0	$ 0
Exercise of warrants	0	0
Change in fair value - net	0	0
Issuances of warrants		0
Balance	0	0
Warrant Liability Noncurrent [Member]		
Balance	11,792	5,818
Exercise of warrants	0	(4)
Change in fair value - net	(2,743)	(1,489)
Issuances of warrants		4,724
Balance	9,049	9,049
Warrant Liability [Member]		
Balance	11,792	5,818
Exercise of warrants	0	(4)
Change in fair value - net	(2,743)	(1,489)
Issuances of warrants		4,724
Balance	$ 9,049	$ 9,049

Note 3 - Accrued Expenses and Other Current Liabilities - Accrued Expenses and Other Current Liabilities (Details) - USD ($) $ in Thousands	Sep. 30, 2020	Dec. 31, 2019
Accrued chemistry manufacturing and control costs	$ 1,086	$ 49
Accrued clinical activities	311	93
Accrued payroll and bonuses	247	436
Operating lease liability - current	114	103
Related party payable	99	99
Accrued license fees and sponsored research agreements	95	201
Accrued legal, regulatory, and professional	87	272
Accrued other	56	164
Total accrued expenses and other current liabilities	$ 2,095	$ 1,417

Note 4 - Warrants (Details Textual) - USD ($)	3 Months Ended			9 Months Ended			
	Feb. 10, 2020	Sep. 30, 2020	Sep. 30, 2019	Sep. 30, 2020	Sep. 30, 2019	Apr. 30, 2020	Dec. 31, 2019
Class of Warrant or Right, Outstanding (in shares)		17,009,495		17,009,495			10,763,995
Share-based Payment Arrangement, Expense		$ 460,000	$ 489,000	$ 1,265,000	$ 1,155,000		
Warrants Issued in June 2018 and Expiring December 22, 2023 [Member]							
Class of Warrant or Right, Number of Securities Called by Warrants or Rights (in shares)		710,212		710,212			
Class of Warrant or Right, Exercise Price of Warrants or Rights (in dollars per share)		$ 2.02		$ 2.02			
Warrants Issued in June 2018 and Expiring June 21, 2023 [Member]							
Class of Warrant or Right, Number of Securities Called by Warrants or Rights (in shares)		32,779		32,779			
Class of Warrant or Right, Exercise Price of Warrants or Rights (in dollars per share)		$ 2.32		$ 2.32			
Warrants Issued in July 2017 for Consulting with Exercise Price of 2.41 [Member]							
Class of Warrant or Right, Number of Securities Called by Warrants or Rights (in shares)		100,000		100,000			
Class of Warrant or Right, Exercise Price of Warrants or Rights (in dollars per share)		$ 2.41		$ 2.41			
Warrants Issued in July 2017 for Consulting with Exercise Price 3.00 [Member]							
Class of Warrant or Right, Number of Securities Called by Warrants or Rights (in shares)		50,000		50,000			
Class of Warrant or Right, Exercise Price of Warrants or Rights (in dollars per share)		$ 3.00		$ 3.00			
Warrants Issued in Connection with the February 2020 Stock Offering [Member]							

Class of Warrant or Right, Number of Securities Called by Warrants or Rights (in shares)	5,625,000					
Class of Warrant or Right, Exercise Price of Warrants or Rights (in dollars per share)	$ 1.05					
Class of Warrant or Right, Initial Exercise Period (Month)	6 months					
Warrants and Rights Outstanding, Term (Year)	5 years					
Class of Warrant or Right, Outstanding (in shares)	[1]	6,150,000		6,150,000		0
Oppenheimer Co, Underwriter Warrant [Member]						
Class of Warrant or Right, Number of Securities Called by Warrants or Rights (in shares)	525,000					
Class of Warrant or Right, Exercise Price of Warrants or Rights (in dollars per share)	$ 1.05					
Warrants Issued in April 2020 for Consulting [Member]						
Class of Warrant or Right, Number of Securities Called by Warrants or Rights (in shares)					100,000	
Class of Warrant or Right, Vesting Contingency, Research and Development Expenditures Threshold					$ 10,000,000	
Class of Warrant or Right, Outstanding (in shares)		100,000		100,000		0
Equity Classified Warrants [Member]						
Class of Warrant or Right, Outstanding (in shares)		607,802		607,802		507,802
Class of Warrant or Right, Vested and Exercisable (in shares)		512,802		512,802		507,802
Share-based Payment Arrangement, Expense		$ 0	$ 92,000	$ 5,000	$ 94,000	
Share-based Payment Arrangement, Nonvested Award, Cost Not yet Recognized, Amount, Total		$ 91,000		$ 91,000		

[1] If the Company subdivides (by any stock split, stock dividend, recapitalization or otherwise) its outstanding shares of its common stock into a smaller number of shares, the warrant exercise price is proportionately reduced and the number of shares under outstanding warrants is proportionately increased. Additionally, if the Company combines (by combination, reverse stock

split or otherwise) its outstanding shares of common stock into a smaller number of shares, the warrant exercise price is proportionately increased and the number of shares under outstanding warrants is proportionately decreased. Also, the Company may voluntarily reduce the warrant exercise price for its warrants issued in March 2019 and February 2017 and may voluntarily extend the contractual term of its warrants issued in February 2017.

Note 4 - Warrants - Warrants Outstanding (Details) - $ / shares		9 Months Ended	12 Months Ended	
		Sep. 30, 2020	Dec. 31, 2019	Feb. 10, 2020
Balance outstanding (in shares)		17,009,495	10,763,995	
Weighted Average [Member]				
Balance outstanding, warrant exercise price (in dollars per share)		$ 1.63		
Warrants Issued in February 2017 [Member]				
Balance outstanding (in shares)	[1]	404,002	404,002	
Balance outstanding, remaining contractual life (Year)	[1]	1 year 4 months 24 days		
Warrants Issued in February 2017 [Member] | Weighted Average [Member]				
Balance outstanding, warrant exercise price (in dollars per share)	[1]	$ 1.50		
Warrants Issued in February 2018 [Member]				
Balance outstanding (in shares)	[1]	2,273,700	2,273,700	
Balance outstanding, remaining contractual life (Year)	[1]	2 years 10 months 24 days		
Warrants Issued in February 2018 [Member] | Weighted Average [Member]				
Balance outstanding, warrant exercise price (in dollars per share)	[1]	$ 2.80		
Warrants Issued in June 2018 [Member]				
Balance outstanding (in shares)	[1],[2]	742,991	742,991	
Balance outstanding, remaining contractual life (Year)	[1],[2]	3 years 2 months 12 days		
Warrants Issued in June 2018 [Member] | Weighted Average [Member]				
Balance outstanding, warrant exercise price (in dollars per share)	[1],[2]	$ 2.03		
Warrants Issued in March 2019 [Member]				
Balance outstanding (in shares)	[1]	1,581,000	1,585,500	
Balance outstanding, remaining contractual life (Year)	[1]	3 years 6 months		
Warrants Issued in March 2019 [Member] | Weighted Average [Member]				
Balance outstanding, warrant exercise price (in dollars per share)	[1]	$ 1.10		
Warrants Issued in April 2019 [Member]				
Balance outstanding (in shares)	[1]	5,250,000	5,250,000	
Balance outstanding, remaining contractual life (Year)	[1]	3 years 7 months 6 days		
Warrants Issued in April 2019 [Member] | Weighted Average [Member]				

Balance outstanding, warrant exercise price (in dollars per share)	[1]	$ 1.75		
Warrants Issued in Connection with the February 2020 Stock Offering [Member]				
Balance outstanding (in shares)	[1]	6,150,000	0	
Balance outstanding, warrant exercise price (in dollars per share)				$ 1.05
Balance outstanding, remaining contractual life (Year)	[1]	4 years 9 months 18 days		
Warrants Issued in Connection with the February 2020 Stock Offering [Member] | Weighted Average [Member]				
Balance outstanding, warrant exercise price (in dollars per share)	[1]	$ 1.05		
Liability Classified Warrants [Member]				
Balance outstanding (in shares)	[1]	16,401,693	10,256,193	
Balance outstanding, remaining contractual life (Year)		3 years 10 months 24 days	4 years	
Liability Classified Warrants [Member] | Weighted Average [Member]				
Balance outstanding, warrant exercise price (in dollars per share)		$ 1.58	[1] $ 1.89	
Warrants Issued in May 2016 to Bonwick [Member]				
Balance outstanding (in shares)		107,802	107,802	
Balance outstanding, remaining contractual life (Year)		7 months 6 days		
Warrants Issued in May 2016 to Bonwick [Member] | Weighted Average [Member]				
Balance outstanding, warrant exercise price (in dollars per share)		$ 7.50		
Warrants Issued in July 2017 for Consulting [Member]				
Balance outstanding (in shares)	[3]	150,000	150,000	
Balance outstanding, remaining contractual life (Year)	[3]	1 year 9 months 18 days		
Warrants Issued in July 2017 for Consulting [Member] | Weighted Average [Member]				
Balance outstanding, warrant exercise price (in dollars per share)	[3]	$ 2.61		
Warrants Issued in April 2018 for Consulting [Member]				
Balance outstanding (in shares)		100,000	100,000	
Balance outstanding, remaining contractual life (Year)		6 months		
Warrants Issued in April 2018 for Consulting [Member] | Weighted Average [Member]				
Balance outstanding, warrant exercise price (in dollars per share)		$ 3.00		
Warrants Issued in August 2019 for Consulting [Member]				
Balance outstanding (in shares)		150,000	150,000	
Balance outstanding, remaining contractual life (Year)		1 year 10 months 24 days		
Warrants Issued in August 2019 for Consulting [Member] | Weighted Average [Member]				
Balance outstanding, warrant exercise price (in dollars per share)		$ 1.64		

Warrants Issued in April 2020 for Consulting [Member]		
Balance outstanding (in shares)	100,000	0
Balance outstanding, remaining contractual life (Year)	4 years 7 months 6 days	
Warrants Issued in April 2020 for Consulting [Member] | Weighted Average [Member]		
Balance outstanding, warrant exercise price (in dollars per share)	$ 1.14	
Equity Classified Warrants [Member]		
Balance outstanding (in shares)	607,802	507,802
Equity Classified Warrants [Member] | Weighted Average [Member]		
Balance outstanding, warrant exercise price (in dollars per share)	$ 3.06	

[1] If the Company subdivides (by any stock split, stock dividend, recapitalization or otherwise) its outstanding shares of its common stock into a smaller number of shares, the warrant exercise price is proportionately reduced and the number of shares under outstanding warrants is proportionately increased. Additionally, if the Company combines (by combination, reverse stock split or otherwise) its outstanding shares of common stock into a smaller number of shares, the warrant exercise price is proportionately increased and the number of shares under outstanding warrants is proportionately decreased. Also, the Company may voluntarily reduce the warrant exercise price for its warrants issued in March 2019 and February 2017 and may voluntarily extend the contractual term of its warrants issued in February 2017.

[2] Includes warrants to purchase 710,212 shares at an exercise price of $2.02, expiring December 22, 2023, and warrants to purchase 32,779 shares at an exercise price of $2.32, expiring June 21, 2023.

[3] Includes warrants to purchase 100,000 shares at an exercise price of $2.41 and warrants to purchase 50,000 shares at an exercise price of $3.00.

Note 4 - Warrants - Assumptions Used (Details) - Liability Classified Warrants [Member]	Sep. 30, 2020	Dec. 31, 2019
Measurement Input, Expected Dividend Rate [Member]		
Warrants, assumptions	0	0
Minimum [Member] | Measurement Input, Risk Free Interest Rate [Member]		
Warrants, assumptions	0.001	0.016
Minimum [Member] | Measurement Input, Price Volatility [Member]		
Warrants, assumptions	1.125	0.975
Minimum [Member] | Measurement Input, Expected Term [Member]		
Warrants, assumptions	1.4	2.1
Maximum [Member] | Measurement Input, Risk Free Interest Rate [Member]		
Warrants, assumptions	0.003	0.017
Maximum [Member] | Measurement Input, Price Volatility [Member]		
Warrants, assumptions	1.241	1.075
Maximum [Member] | Measurement Input, Expected Term [Member]		
Warrants, assumptions	4.9	4.3

Note 4 - Warrants - Warrant Activity (Details) - $ / shares	9 Months Ended Sep. 30, 2020	12 Months Ended Dec. 31, 2019
Balance, number of shares under warrants (in shares)	10,763,995	
Balance, number of shares under warrants (in shares)	17,009,495	10,763,995
Weighted Average [Member]		
Balance, warrant exercise price (in dollars per share)	$ 1.63	
Liability Classified Warrants [Member]		
Balance, number of shares under warrants (in shares)	[1] 10,256,193	
Balance, weighted average remaining contractual life (Year)	3 years 10 months 24 days	4 years
Granted, number of shares under warrants (in shares)	6,150,000	
Granted, weighted average remaining contractual life (Year)	4 years 9 months 18 days	
Exercised, number of shares under warrants (in shares)	(4,500)	
Expired, number of shares under warrants (in shares)	0	
Balance, number of shares under warrants (in shares)	[1] 16,401,693	10,256,193
Vested and Exercisable, number of shares under warrants (in shares)	16,401,693	
Vested and Exercisable, weighted average remaining contractual life (Year)	3 years 10 months 24 days	
Liability Classified Warrants [Member] | Minimum [Member]		
Balance, warrant exercise price (in dollars per share)	$ 1.10	
Granted, warrant exercise price (in dollars per share)	1.05	
Exercised, warrant exercise price (in dollars per share)	1.10	
Expired, warrant exercise price (in dollars per share)	0	
Balance, warrant exercise price (in dollars per share)	1.05	$ 1.10
Vested and Exercisable, warrant exercise price (in dollars per share)	1.10	
Liability Classified Warrants [Member] | Maximum [Member]		
Balance, warrant exercise price (in dollars per share)	2.80	
Granted, warrant exercise price (in dollars per share)	1.05	
Exercised, warrant exercise price (in dollars per share)	1.10	
Expired, warrant exercise price (in dollars per share)	0	
Balance, warrant exercise price (in dollars per share)	2.80	2.80
Vested and Exercisable, warrant exercise price (in dollars per share)	2.80	
Liability Classified Warrants [Member] | Weighted Average [Member]		
Balance, warrant exercise price (in dollars per share)	1.89	
Granted, warrant exercise price (in dollars per share)	1.05	
Exercised, warrant exercise price (in dollars per share)	1.10	
Expired, warrant exercise price (in dollars per share)	0	
Balance, warrant exercise price (in dollars per share)	1.58	[1] $ 1.89
Vested and Exercisable, warrant exercise price (in dollars per share)	$ 1.89	

[1] If the Company subdivides (by any stock split, stock dividend, recapitalization or otherwise) its outstanding shares of its common stock into a smaller number of shares, the warrant exercise price is proportionately reduced and the number of shares under outstanding warrants is proportionately increased. Additionally, if the Company combines (by combination, reverse stock split or otherwise) its outstanding shares of common stock into a smaller number of shares, the warrant exercise price is proportionately increased and the number of shares under outstanding warrants is proportionately decreased. Also, the Company may voluntarily reduce the warrant exercise price for its warrants issued in March 2019 and February 2017 and may voluntarily extend the contractual term of its warrants issued in February 2017.

Note 5 - Equity (Details Textual) $ / shares in Units, $ in Thousands	1 Months Ended					9 Months Ended		
	Feb. 10, 2020 USD ($) $ / shares shares	Oct. 30, 2020 shares	Aug. 31, 2020 shares	Jul. 31, 2020 USD ($) $ / shares shares	Apr. 30, 2020 USD ($) $ / shares shares	Sep. 30, 2020 USD ($) shares	Sep. 30, 2019 USD ($)	Jun. 15, 2018 shares
Proceeds from Issuance of Common Stock						$ 17,077	$ 19,292	
Share Based Compensation Arrangement by Share Based Payment Award, Options, Grants in Period, Aggregate Fair Value						1,300		
Share-based Compensation Arrangement by Share-based Payment Award, Options, Vested in Period, Fair Value						$ 1,200	$ 1,000	
Share-based Compensation Arrangement by Share-based Payment Award, Options, Grants in Period, Gross (in shares) | shares				1,349,750		1,554,750		
Director [Member] | Subsequent Event [Member]								
Share-based Compensation Arrangement by Share-based Payment Award, Options, Grants in Period, Gross (in shares) | shares		40,000						
Company Founder and Chair of Scientific Advisory Board [Member]								
Share-based Compensation Arrangement by Share-based Payment Award, Options, Grants in Period, Gross (in shares) | shares			100,000					
Share-based Payment Arrangement, Option [Member]								
Share-based Compensation Arrangement by Share-based Payment Award, Expiration Period (Year)						10 years		
Share-based Payment Arrangement, Nonvested Award, Cost Not yet Recognized, Amount, Total						$ 3,000		
Share-based Payment Arrangement, Nonvested Award, Cost Not yet Recognized, Period for Recognition (Year)						2 years 7 months 24 days		

Share-based Payment Arrangement, Option [Member] | Employees [Member]		
Share-based Compensation Arrangement by Share-based Payment Award, Award Vesting Period (Year)		4 years
Share-based Payment Arrangement, Option [Member] | Director [Member] | Subsequent Event [Member]		
Share-based Compensation Arrangement by Share-based Payment Award, Award Vesting Period (Year)	3 years	
Share-based Payment Arrangement, Option [Member] | Director [Member] | Minimum [Member]		
Share-based Compensation Arrangement by Share-based Payment Award, Award Vesting Period (Year)		1 year
Share-based Payment Arrangement, Option [Member] | Director [Member] | Maximum [Member]		
Share-based Compensation Arrangement by Share-based Payment Award, Award Vesting Period (Year)		3 years
Restricted Stock Units (RSUs) [Member]		
Share-based Payment Arrangement, Nonvested Award, Cost Not yet Recognized, Amount, Total		$ 600
Share-based Payment Arrangement, Nonvested Award, Cost Not yet Recognized, Period for Recognition (Year)		3 years 3 months 18 days
Share Based Compensation Arrangement by Share Based Payment Award, Number of Installment Periods		4
The 2015 Stock Plan [Member]		
Share-based Compensation Arrangement by Share-based Payment Award, Number of Shares Authorized (in shares) | shares		10,500,000

Share-based Compensation Arrangement by Share-based Payment Award, Number of Shares Available for Grant (in shares) | shares			4,409,132
Warrants Issued in Connection with the February 2020 Stock Offering [Member]			
Class of Warrant or Right, Number of Securities Called by Warrants or Rights (in shares) | shares	5,625,000		
The 2019 ATM Agreement [Member]			
Stock Issued During Period, Shares, New Issues (in shares) | shares		1,301,126	7,170,964
Shares Issued, Average Price Per Share (in dollars per share) | $ / shares		$ 1.47	$ 1.44
Proceeds from Issuance of Common Stock		$ 1,900	$ 10,300
Payments of Stock Issuance Costs		$ 100	$ 300
February 2020 Stock Offering [Member]			
Stock Issued During Period, Shares, New Issues (in shares) | shares	7,500,000		
Payments of Stock Issuance Costs	$ 700		
Shares and Warrants Issued in Period, Purchase Price Per Share and Related Warrant (in dollars per share) | $ / shares	$ 0.80		
Proceeds from Issuance or Sale of Equity, Total	$ 6,000		

Note 5 - Equity - Stock-based Compensation (Details) - USD ($) $ in Thousands	3 Months Ended		9 Months Ended	
	Sep. 30, 2020	Sep. 30, 2019	Sep. 30, 2020	Sep. 30, 2019
Stock-based compensation expense	$ 460	$ 489	$ 1,265	$ 1,155
General and Administrative Expense [Member]				
Stock-based compensation expense	366	430	1,029	1,003
Research and Development Expense [Member]				
Stock-based compensation expense	$ 94	$ 59	$ 236	$ 152

Note 5 - Equity - Assumptions Used (Details)	9 Months Ended	
	Sep. 30, 2020	Sep. 30, 2019
Expected dividend yield	0.00%	0.00%
Minimum [Member]		
Risk-free interest rate	0.20%	1.00%
Expected volatility of common stock	125.40%	85.00%
Expected life (years) (Year)	3 years 9 months 18 days	5 years 3 months 18 days
Maximum [Member]		
Risk-free interest rate	0.50%	1.30%
Expected volatility of common stock	128.00%	100.00%
Expected life (years) (Year)	6 years 3 months 18 days	6 years 3 months 18 days

Note 5 - Equity - Stock Option Activity (Details) - USD ($)	1 Months Ended Jul. 31, 2020	9 Months Ended Sep. 30, 2020	12 Months Ended Dec. 31, 2019
Outstanding, number of shares (in shares)		3,836,000	
Outstanding, weighted average grant date fair value (in dollars per share)		$ 1.59	
Outstanding, weighted average exercise price (in dollars per share)		$ 2.26	
Outstanding, weighted average remaining contractual term (Year)		8 years 1 month 6 days	8 years 3 months 18 days
Outstanding, aggregate intrinsic value		$ 0	$ 0
Granted, number of shares (in shares)	1,349,750	1,554,750	
Granted, weighted average grant date fair value (in dollars per share)		$ 0.83	
Granted, weighted average exercise price (in dollars per share)		$ 0.95	
Exercised, number of shares (in shares)		0	
Exercised, weighted average grant date fair value (in dollars per share)		$ 0	
Exercised, weighted average exercise price (in dollars per share)		$ 0	
Forfeited, number of shares (in shares)		(20,000)	
Forfeited, weighted average grant date fair value (in dollars per share)		$ 0.89	
Forfeited, weighted average exercise price (in dollars per share)		$ 1.06	
Outstanding, number of shares (in shares)		5,370,750	3,836,000
Outstanding, weighted average grant date fair value (in dollars per share)		$ 1.37	$ 1.59
Outstanding, weighted average exercise price (in dollars per share)		$ 1.88	$ 2.26
Exercisable, number of shares (in shares)		1,978,917	
Exercisable, weighted average grant date fair value (in dollars per share)		$ 1.91	
Exercisable, weighted average exercise price (in dollars per share)		$ 2.79	
Exercisable, weighted average remaining contractual term (Year)		7 years 2 months 12 days	
Exercisable, aggregate intrinsic value		$ 0	

Note 5 - Equity - Restricted Stock Unit Activity (Details) - Restricted Stock Units (RSUs) [Member] - $ / shares	9 Months Ended Sep. 30, 2020	12 Months Ended Dec. 31, 2019
Unvested Shares, number of shares (in shares)	316,907	
Unvested Shares, weighted average grant date fair value (in dollars per share)	$ 1.31	
Unvested Shares, weighted average remaining contractual term (Year)	3 years 3 months 18 days	3 years 6 months
Granted, number of shares (in shares)	353,211	
Granted, weighted average grant date fair value (in dollars per share)	$ 0.93	
Vested, number of shares (in shares)	(79,227)	
Vested, weighted average grant date fair value (in dollars per share)	$ 1.31	
Unvested Shares, number of shares (in shares)	590,891	316,907
Unvested Shares, weighted average grant date fair value (in dollars per share)	$ 1.08	$ 1.31

Note 6 - Income Taxes (Details Textual) - USD ($)	3 Months Ended		9 Months Ended	
	Sep. 30, 2020	Sep. 30, 2019	Sep. 30, 2020	Sep. 30, 2019
Income Tax Expense (Benefit), Total	$ (0)	$ (229,000)	$ 0	$ (229,000)
Effective Income Tax Rate Reconciliation, Percent, Total	0.00%	5.20%	0.00%	1.40%
Effective Income Tax Rate Reconciliation, Tax Credit, Research, Amount			$ 0	

Note 7 - Commitments and Contingencies (Details Textual)	Mar. 16, 2020 USD ($)	3 Months Ended		9 Months Ended	
		Sep. 30, 2020 USD ($)	Sep. 30, 2019 USD ($)	Sep. 30, 2020 USD ($)	Sep. 30, 2019 USD ($)
Sublease Income		$ 10,000	$ 31,000		
Operating Lease, Weighted Average Remaining Lease Term (Year)		2 years 8 months 12 days		2 years 8 months 12 days	
Operating Lease, Weighted Average Discount Rate, Percent		9.60%		9.60%	
Research and Development Expense, Total		$ 4,435,000	2,785,000	$ 10,971,000	$ 7,816,000
Houston Pharmaceuticals, Inc [Member]					
Related Party Transaction, Expenses from Transactions with Related Party		59,000	0	226,000	75,000
Houston Pharmaceuticals, Inc [Member] | Consulting Agreement on Licensed Molecules [Member]					
Other Commitments, Number of Agreements	2				
Other Commitment, Total	$ 43,500				
Houston Pharmaceuticals, Inc [Member] | Agreement Providing Access to Laboratory Equipment [Member]					
Other Commitment, Total	$ 15,000				
Other Commitments, Cancellation Period (Day)	60 days				
MD Anderson [Member]					
License Agreements Expense		61,000	60,000	183,000	180,000
Research and Development Expense, Total		$ 212,000	$ 177,000	$ 537,000	$ 366,000

Note 7 - Commitments and Contingencies - Lease Cost (Details) - USD ($) $ in Thousands	3 Months Ended		9 Months Ended	
	Sep. 30, 2020	Sep. 30, 2019	Sep. 30, 2020	Sep. 30, 2019
Operating lease cost	$ 29	$ 15	$ 87	$ 31
Short-term lease cost	4	12	13	38
Variable lease cost	7	7	22	19
Total	40	34	122	88
Operating cash flows from operating leases	34	20	100	41
Right-of-use assets obtained in exchange for lease liabilities operating leases	$ 0	$ 212	$ 0	$ 321

Note 7 - Commitments and Contingencies - Future Minimum Liabilities (Details) $ in Thousands	Sep. 30, 2020 USD ($)
2020 (remaining three months)	$ 34
2021	138
2022	105
2023	56
2024	10
2025 and thereafter	0
Total lease payments	343
Less: imputed interest	(39)
Present value of operating lease liabilities	$ 304

Note 8 - Subsequent Events (Details Textual) - USD ($)	Nov. 12, 2020	1 Months Ended Oct. 31, 2020	3 Months Ended Sep. 30, 2020	Jun. 30, 2020	Mar. 31, 2020	Sep. 30, 2019	Jun. 30, 2019	Mar. 31, 2019	9 Months Ended Sep. 30, 2020	Sep. 30, 2019	Jul. 31, 2020
Proceeds from Issuance of Common Stock									$ 17,077,000	$ 19,292,000	
Stock Issued During Period, Value, New Issues			$ 1,780,000	$ 10,007,000	$ 566,000	$ 52,000	$ 3,584,000	$ 3,226,000			
Lincoln Park [Member]											
Stock Issued During Period, Value, New Issues								$ 883,000			
Subsequent Event [Member] | Lincoln Park [Member]											
Stock Issued During Period, Shares, New Issues (in shares)	2,829,214										
Purchase Agreement, Common Stock, Maximum Aggregate Commitment	$ 22.0										
Stock Issued During Period, Shares, Commitment Consideration (in shares)	760,194										
Purchase Agreement, Maximum Aggregate Commitment, Number of Additional Shares Issued (in shares)	304,077										
Shares Issued, Price Per Share (in dollars per share)	$ 0.707										
Stock Issued During Period, Value, New Issues	$ 2,000,000.0										
Stock Issued During Period, Shares, Additional Commitment Shares (in shares)	27,643										
The 2020 ATM Agreement [Member]											
At Market Issuance Sales Agreement, Maximum Aggregate Offering Price											$ 15,000,000.0
The 2020 ATM Agreement [Member] | Subsequent Event [Member]											
Stock Issued During Period, Shares, New Issues (in shares)		700,339									
Shares Issued, Average Price Per Share (in dollars per share)		$ 0.83									
Proceeds from Issuance of Common Stock		$ 600,000									
At Market Issuance Sales Agreement, Commission Fee, Percentage of Gross Proceeds		3.00%									

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   "http://www.moleculin.com/20200930/role/statement-note-5-equity-details-textual",
   "http://www.moleculin.com/20200930/role/statement-note-5-equity-restricted-stock-unit-activity-details",
   "http://www.moleculin.com/20200930/role/statement-note-5-equity-stock-option-activity-details",
   "http://www.moleculin.com/20200930/role/statement-note-5-equity-stockbased-compensation-details",
   "http://www.moleculin.com/20200930/role/statement-note-5-equity-tables",
   "http://www.moleculin.com/20200930/role/statement-note-6-income-taxes",
   "http://www.moleculin.com/20200930/role/statement-note-6-income-taxes-details-textual",
   "http://www.moleculin.com/20200930/role/statement-note-7-commitments-and-contingencies",
   "http://www.moleculin.com/20200930/role/statement-note-7-commitments-and-contingencies-details-textual",
   "http://www.moleculin.com/20200930/role/statement-note-7-commitments-and-contingencies-future-minimum-liabilities-details",
   "http://www.moleculin.com/20200930/role/statement-note-7-commitments-and-contingencies-lease-cost-details",
   "http://www.moleculin.com/20200930/role/statement-note-7-commitments-and-contingencies-tables",
   "http://www.moleculin.com/20200930/role/statement-note-8-subsequent-events",
   "http://www.moleculin.com/20200930/role/statement-note-8-subsequent-events-details-textual",
   "http://www.moleculin.com/20200930/role/statement-significant-accounting-policies-policies"
  ],
  "xbrltype": "domainItemType"
 },
 "dei_EntityEmergingGrowthCompany": {
  "auth_ref": [
   "r333"
  ],
  "lang": {
   "en-US": {
    "role": {
     "documentation": "Indicate if registrant meets the emerging growth company criteria.",
     "label": "Entity Emerging Growth Company"
    }
   }
  },
  "localname": "EntityEmergingGrowthCompany",
  "nsuri": "http://xbrl.sec.gov/dei/2019-01-31",
  "presentation": [
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  "xbrltype": "booleanItemType"
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 "dei_EntityExTransitionPeriod": {
  "auth_ref": [
   "r335"
  ],
  "lang": {
   "en-US": {
    "role": {
     "documentation": "Indicate if an emerging growth company has elected not to use the extended transition period for complying with any new or revised financial accounting standards.",
     "label": "Entity Ex Transition Period"
    }
   }
  },
  "localname": "EntityExTransitionPeriod",
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  "xbrltype": "booleanItemType"
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 "dei_EntityFileNumber": {
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  "lang": {
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    "role": {
     "documentation": "Commission file number. The field allows up to 17 characters. The prefix may contain 1-3 digits, the sequence number may contain 1-8 digits, the optional suffix may contain 1-4 characters, and the fields are separated with a hyphen.",
     "label": "Entity File Number"
    }
   }
  },
  "localname": "EntityFileNumber",
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  "presentation": [
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  "xbrltype": "fileNumberItemType"
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 "dei_EntityFilerCategory": {
  "auth_ref": [
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  ],
  "lang": {
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    "role": {
     "documentation": "Indicate whether the registrant is one of the following: Large Accelerated Filer, Accelerated Filer, Non-accelerated Filer. Definitions of these categories are stated in Rule 12b-2 of the Exchange Act. This information should be based on the registrant's current or most recent filing containing the related disclosure.",
     "label": "Entity Filer Category"
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   }
  },
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  "xbrltype": "filerCategoryItemType"
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 "dei_EntityIncorporationStateCountryCode": {
  "auth_ref": [],
  "lang": {
   "en-US": {
    "role": {
     "documentation": "Two-character EDGAR code representing the state or country of incorporation.",
     "label": "Entity Incorporation, State or Country Code"
    }
   }
  },
  "localname": "EntityIncorporationStateCountryCode",
  "nsuri": "http://xbrl.sec.gov/dei/2019-01-31",
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  ],
  "xbrltype": "edgarStateCountryItemType"
 },
 "dei_EntityInteractiveDataCurrent": {
  "auth_ref": [
   "r336"
  ],
  "lang": {
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    "role": {
     "documentation": "Boolean flag that is true when the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit such files).",
     "label": "Entity Interactive Data Current"
    }
   }
  },
  "localname": "EntityInteractiveDataCurrent",
  "nsuri": "http://xbrl.sec.gov/dei/2019-01-31",
  "presentation": [
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  ],
  "xbrltype": "yesNoItemType"
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 "dei_EntityRegistrantName": {
  "auth_ref": [
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  "lang": {
   "en-US": {
    "role": {
     "documentation": "The exact name of the entity filing the report as specified in its charter, which is required by forms filed with the SEC.",
     "label": "Entity Registrant Name"
    }
   }
  },
  "localname": "EntityRegistrantName",
  "nsuri": "http://xbrl.sec.gov/dei/2019-01-31",
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  ],
  "xbrltype": "normalizedStringItemType"
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 "dei_EntityShellCompany": {
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  "lang": {
   "en-US": {
    "role": {
     "documentation": "Boolean flag that is true when the registrant is a shell company as defined in Rule 12b-2 of the Exchange Act.",
     "label": "Entity Shell Company"
    }
   }
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  "localname": "EntityShellCompany",
  "nsuri": "http://xbrl.sec.gov/dei/2019-01-31",
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  ],
  "xbrltype": "booleanItemType"
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 "dei_EntitySmallBusiness": {
  "auth_ref": [
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  "lang": {
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    "role": {
     "documentation": "Indicates that the company is a Smaller Reporting Company (SRC).",
     "label": "Entity Small Business"
    }
   }
  },
  "localname": "EntitySmallBusiness",
  "nsuri": "http://xbrl.sec.gov/dei/2019-01-31",
  "presentation": [
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  ],
  "xbrltype": "booleanItemType"
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 "dei_EntityTaxIdentificationNumber": {
  "auth_ref": [
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  ],
  "lang": {
   "en-US": {
    "role": {
     "documentation": "The Tax Identification Number (TIN), also known as an Employer Identification Number (EIN), is a unique 9-digit value assigned by the IRS.",
     "label": "Entity Tax Identification Number"
    }
   }
  },
  "localname": "EntityTaxIdentificationNumber",
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  "xbrltype": "employerIdItemType"
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  "lang": {
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    "role": {
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     "label": "Legal Entity [Axis]"
    }
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  "nsuri": "http://xbrl.sec.gov/dei/2019-01-31",
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   "http://www.moleculin.com/20200930/role/statement-condensed-consolidated-balance-sheets-unaudited-parentheticals",
   "http://www.moleculin.com/20200930/role/statement-condensed-consolidated-statements-of-cash-flows-unaudited",
   "http://www.moleculin.com/20200930/role/statement-condensed-consolidated-statements-of-operations-and-comprehensive-loss-unaudited",
   "http://www.moleculin.com/20200930/role/statement-document-and-entity-information",
   "http://www.moleculin.com/20200930/role/statement-note-1-nature-of-business-and-liquidity",
   "http://www.moleculin.com/20200930/role/statement-note-1-nature-of-business-and-liquidity-details-textual",
   "http://www.moleculin.com/20200930/role/statement-note-2-basis-of-presentation-principles-of-consolidation-and-significant-accounting-policies",
   "http://www.moleculin.com/20200930/role/statement-note-2-basis-of-presentation-principles-of-consolidation-and-significant-accounting-policies-assets-and-liabilities-at-fair-value-measured-on-a-recurring-basis-details",
   "http://www.moleculin.com/20200930/role/statement-note-2-basis-of-presentation-principles-of-consolidation-and-significant-accounting-policies-details-textual",
   "http://www.moleculin.com/20200930/role/statement-note-2-basis-of-presentation-principles-of-consolidation-and-significant-accounting-policies-level-3-liabilities-details",
   "http://www.moleculin.com/20200930/role/statement-note-2-basis-of-presentation-principles-of-consolidation-and-significant-accounting-policies-prepaid-expenses-and-other-current-assets-details",
   "http://www.moleculin.com/20200930/role/statement-note-2-basis-of-presentation-principles-of-consolidation-and-significant-accounting-policies-tables",
   "http://www.moleculin.com/20200930/role/statement-note-3-accrued-expenses-and-other-current-liabilities",
   "http://www.moleculin.com/20200930/role/statement-note-3-accrued-expenses-and-other-current-liabilities-accrued-expenses-and-other-current-liabilities-details",
   "http://www.moleculin.com/20200930/role/statement-note-3-accrued-expenses-and-other-current-liabilities-tables",
   "http://www.moleculin.com/20200930/role/statement-note-4-warrants",
   "http://www.moleculin.com/20200930/role/statement-note-4-warrants-assumptions-used-details",
   "http://www.moleculin.com/20200930/role/statement-note-4-warrants-details-textual",
   "http://www.moleculin.com/20200930/role/statement-note-4-warrants-tables",
   "http://www.moleculin.com/20200930/role/statement-note-4-warrants-warrant-activity-details",
   "http://www.moleculin.com/20200930/role/statement-note-4-warrants-warrants-outstanding-details",
   "http://www.moleculin.com/20200930/role/statement-note-5-equity",
   "http://www.moleculin.com/20200930/role/statement-note-5-equity-assumptions-used-details",
   "http://www.moleculin.com/20200930/role/statement-note-5-equity-details-textual",
   "http://www.moleculin.com/20200930/role/statement-note-5-equity-restricted-stock-unit-activity-details",
   "http://www.moleculin.com/20200930/role/statement-note-5-equity-stock-option-activity-details",
   "http://www.moleculin.com/20200930/role/statement-note-5-equity-stockbased-compensation-details",
   "http://www.moleculin.com/20200930/role/statement-note-5-equity-tables",
   "http://www.moleculin.com/20200930/role/statement-note-6-income-taxes",
   "http://www.moleculin.com/20200930/role/statement-note-6-income-taxes-details-textual",
   "http://www.moleculin.com/20200930/role/statement-note-7-commitments-and-contingencies",
   "http://www.moleculin.com/20200930/role/statement-note-7-commitments-and-contingencies-details-textual",
   "http://www.moleculin.com/20200930/role/statement-note-7-commitments-and-contingencies-future-minimum-liabilities-details",
   "http://www.moleculin.com/20200930/role/statement-note-7-commitments-and-contingencies-lease-cost-details",
   "http://www.moleculin.com/20200930/role/statement-note-7-commitments-and-contingencies-tables",
   "http://www.moleculin.com/20200930/role/statement-note-8-subsequent-events",
   "http://www.moleculin.com/20200930/role/statement-note-8-subsequent-events-details-textual",
   "http://www.moleculin.com/20200930/role/statement-significant-accounting-policies-policies"
  ],
  "xbrltype": "stringItemType"
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"dei_LocalPhoneNumber": {
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 "lang": {
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   "role": {
    "documentation": "Local phone number for entity.",
    "label": "Local Phone Number"
   }
  }
 },
 "localname": "LocalPhoneNumber",
 "nsuri": "http://xbrl.sec.gov/dei/2019-01-31",
 "presentation": [
  "http://www.moleculin.com/20200930/role/statement-document-and-entity-information"
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 "xbrltype": "normalizedStringItemType"
},
"dei_Security12bTitle": {
 "auth_ref": [
  "r329"
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 "lang": {
  "en-US": {
   "role": {
    "documentation": "Title of a 12(b) registered security.",
    "label": "Title of 12(b) Security"
   }
  }
 },
 "localname": "Security12bTitle",
 "nsuri": "http://xbrl.sec.gov/dei/2019-01-31",
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  "http://www.moleculin.com/20200930/role/statement-document-and-entity-information"
 ],
 "xbrltype": "securityTitleItemType"
},
"dei_SecurityExchangeName": {
 "auth_ref": [
  "r330"
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 "lang": {
  "en-US": {
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    "documentation": "Name of the Exchange on which a security is registered.",
    "label": "Security Exchange Name"
   }
  }
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 "localname": "SecurityExchangeName",
 "nsuri": "http://xbrl.sec.gov/dei/2019-01-31",
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 "xbrltype": "edgarExchangeCodeItemType"
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"dei_TradingSymbol": {
 "auth_ref": [],
 "lang": {
  "en-US": {
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    "documentation": "Trading symbol of an instrument as listed on an exchange.",
    "label": "Trading Symbol"
   }
  }
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 "localname": "TradingSymbol",
 "nsuri": "http://xbrl.sec.gov/dei/2019-01-31",
 "presentation": [
  "http://www.moleculin.com/20200930/role/statement-document-and-entity-information"
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 "xbrltype": "tradingSymbolItemType"
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"mbrx_AccruedChemistryManufacturingAndControlCostsCurrent": {
 "auth_ref": [],
 "calculation": {
  "http://www.moleculin.com/20200930/role/statement-note-3-accrued-expenses-and-other-current-liabilities-accrued-expenses-and-other-current-liabilities-details": {
   "order": 2.0,
   "parentTag": "us-gaap_AccruedLiabilitiesCurrent",
   "weight": 1.0
  }
 },
 "crdr": "credit",
 "lang": {
  "en-US": {
   "role": {
    "documentation": "Carrying value as of the balance sheet date of obligations incurred through that date and payable for chemistry manufacturing and control costs. Used to reflect the current portion of the liabilities (due within one year or within the normal operating cycle if longer).",
    "label": "Accrued chemistry manufacturing and control costs"
   }
  }
 },
 "localname": "AccruedChemistryManufacturingAndControlCostsCurrent",
 "nsuri": "http://www.moleculin.com/20200930",
 "presentation": [
  "http://www.moleculin.com/20200930/role/statement-note-3-accrued-expenses-and-other-current-liabilities-accrued-expenses-and-other-current-liabilities-details"
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 "xbrltype": "monetaryItemType"
},
"mbrx_AccruedClinicalActivitiesCurrent": {
 "auth_ref": [],
 "calculation": {
  "http://www.moleculin.com/20200930/role/statement-note-3-accrued-expenses-and-other-current-liabilities-accrued-expenses-and-other-current-liabilities-details": {
   "order": 3.0,
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   "weight": 1.0
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 "crdr": "credit",
 "lang": {
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   }
  }
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 "localname": "AccruedClinicalActivitiesCurrent",
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"mbrx_AccruedLicenseFeesAndSponsoredResearchAgreements": {
 "auth_ref": [],
 "calculation": {
  "http://www.moleculin.com/20200930/role/statement-note-3-accrued-expenses-and-other-current-liabilities-accrued-expenses-and-other-current-liabilities-details": {
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   "weight": 1.0
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 "crdr": "credit",
 "lang": {
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   "role": {
    "documentation": "Carrying value as of the balance sheet date of obligations incurred through that date and payable for license fees and sponsored research agreements. Used to reflect the current portion of the liabilities (due within one year or within the normal operating cycle if longer).",
    "label": "Accrued license fees and sponsored research agreements"
   }
  }
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 "localname": "AccruedLicenseFeesAndSponsoredResearchAgreements",
 "nsuri": "http://www.moleculin.com/20200930",
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"mbrx_AgreementProvidingAccessToLaboratoryEquipmentMember": {
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 "lang": {
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    "label": "Agreement Providing Access to Laboratory Equipment [Member]"
   }
  }
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 "localname": "AgreementProvidingAccessToLaboratoryEquipmentMember",
 "nsuri": "http://www.moleculin.com/20200930",
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  "http://www.moleculin.com/20200930/role/statement-note-7-commitments-and-contingencies-details-textual"
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"mbrx_AnimalLifeSciencesIncMember": {
 "auth_ref": [],
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    "documentation": "Represents Animal Life Sciences, Inc.",
    "label": "Animal Life Sciences, Inc [Member]"
   }
  }
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 "localname": "AnimalLifeSciencesIncMember",
 "nsuri": "http://www.moleculin.com/20200930",
 "presentation": [
  "http://www.moleculin.com/20200930/role/statement-note-1-nature-of-business-and-liquidity",
  "http://www.moleculin.com/20200930/role/statement-note-1-nature-of-business-and-liquidity-details-textual"
 ],
 "xbrltype": "domainItemType"
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"mbrx_AnnamycinMember": {
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    "label": "Annamycin [Member]"
   }
  }
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 "nsuri": "http://www.moleculin.com/20200930",
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  "http://www.moleculin.com/20200930/role/statement-note-2-basis-of-presentation-principles-of-consolidation-and-significant-accounting-policies",
  "http://www.moleculin.com/20200930/role/statement-note-2-basis-of-presentation-principles-of-consolidation-and-significant-accounting-policies-details-textual"
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"mbrx_AtMarketIssuanceSalesAgreementCommissionFeePercentageOfGrossProceeds": {
 "auth_ref": [],
 "lang": {
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   "role": {
    "documentation": "The commission fees expressed as a percentage of gross proceeds under the at market issuance sales agreement.",
    "label": "mbrx_AtMarketIssuanceSalesAgreementCommissionFeePercentageOfGrossProceeds",
    "terseLabel": "At Market Issuance Sales Agreement, Commission Fee, Percentage of Gross Proceeds"
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 "nsuri": "http://www.moleculin.com/20200930",
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 "xbrltype": "percentItemType"
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"mbrx_AtMarketIssuanceSalesAgreementMaximumAggregateOfferingPrice": {
 "auth_ref": [],
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 "lang": {
  "en-US": {
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    "label": "mbrx_AtMarketIssuanceSalesAgreementMaximumAggregateOfferingPrice",
    "terseLabel": "At Market Issuance Sales Agreement, Maximum Aggregate Offering Price"
   }
  }
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 "localname": "AtMarketIssuanceSalesAgreementMaximumAggregateOfferingPrice",
 "nsuri": "http://www.moleculin.com/20200930",
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 "xbrltype": "monetaryItemType"
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"mbrx_ClassOfWarrantOrRightCancelledDuringPeriod": {
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 "lang": {
  "en-US": {
   "role": {
    "documentation": "The number of warrants or rights cancelled during period.",
    "label": "Expired, number of shares under warrants (in shares)"
   }
  }
 },
 "localname": "ClassOfWarrantOrRightCancelledDuringPeriod",
 "nsuri": "http://www.moleculin.com/20200930",
 "presentation": [
  "http://www.moleculin.com/20200930/role/statement-note-6-warrants-warrant-activity-details"
 ],
 "xbrltype": "sharesItemType"
},
"mbrx_ClassOfWarrantOrRightCancelledDuringPeriodExercisePrice": {
 "auth_ref": [],
 "lang": {
  "en-US": {
   "role": {
    "documentation": "Exercise price per share of warrants or rights cancelled during period.",
    "label": "Expired, warrant exercise price (in dollars per share)"
   }
  }
 },
 "localname": "ClassOfWarrantOrRightCancelledDuringPeriodExercisePrice",
 "nsuri": "http://www.moleculin.com/20200930",
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 "xbrltype": "perShareItemType"
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    "negatedLabel": "Exercised, number of shares under warrants (in shares)"
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  }
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 "localname": "ClassOfWarrantOrRightExercisedDuringPeriod",
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 "presentation": [
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   }
  }
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 "localname": "ClassOfWarrantOrRightExercisedDuringPeriodExercisePrice",
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 "presentation": [
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 "xbrltype": "perShareItemType"
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    "documentation": "The weighted average remaining contractual life of warrants or rights granted during the period.",
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  }
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 "localname": "ClassOfWarrantOrRightGrantsInPeriodWeightedAverageRemainingContractualLife",
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 "xbrltype": "durationItemType"
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"mbrx_ClassOfWarrantOrRightInitialExercisePeriod": {
 "auth_ref": [],
 "lang": {
  "en-US": {
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    "label": "mbrx_ClassOfWarrantOrRightInitialExercisePeriod",
    "terseLabel": "Class of Warrant or Right, Initial Exercise Period (Month)"
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  }
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 "xbrltype": "durationItemType"
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  }
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 "presentation": [
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    "label": "Vested and Exercisable, number of shares under warrants (in shares)",
    "terseLabel": "Class of Warrant or Right, Vested and Exercisable (in shares)"
   }
  }
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 "presentation": [
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  "http://www.moleculin.com/20200930/role/statement-note-6-warrants-warrant-activity-details"
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   "role": {
    "documentation": "Exercise price per share or per unit of warrants or rights vested and exercisable.",
    "label": "Vested and Exercisable, warrant exercise price (in dollars per share)"
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 "presentation": [
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 "xbrltype": "perShareItemType"
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  "en-US": {
   "role": {
    "documentation": "The weighted average remaining contractual life of warrants or rights vested and exercisable.",
    "label": "Vested and Exercisable, weighted average remaining contractual life (Year)"
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 "presentation": [
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 "xbrltype": "durationItemType"
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    "terseLabel": "Class of Warrant or Right, Vesting Contingency, Research and Development Expenditures Threshold"
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    "label": "Balance, weighted average remaining contractual life (Year)",
    "verboseLabel": "Balance outstanding, remaining contractual life (Year)"
   }
  }
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  "http://www.moleculin.com/20200930/role/statement-note-6-warrants-warrants-outstanding-details"
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 "xbrltype": "durationItemType"
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 "calculation": {
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   "order": 6.0,
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   "weight": 1.0
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 "lang": {
  "en-US": {
   "role": {
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    "label": "License rights expense settled in stock"
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  }
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 "nsuri": "http://www.moleculin.com/20200930",
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 "xbrltype": "monetaryItemType"
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"mbrx_CompanyFounderAndChairOfScientificAdvisoryBoardMember": {
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 "lang": {
  "en-US": {
   "role": {
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    "label": "Company Founder and Chair of Scientific Advisory Board [Member]"
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 "localname": "CompanyFounderAndChairOfScientificAdvisoryBoardMember",
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 "presentation": [
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  "http://www.moleculin.com/20200930/role/statement-note-5-equity-details-textual"
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 "xbrltype": "domainItemType"
},
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 "lang": {
  "en-US": {
   "role": {
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    "label": "Consulting Agreement on Licensed Molecules [Member]"
   }
  }
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 "presentation": [
  "http://www.moleculin.com/20200930/role/statement-note-7-commitments-and-contingencies",
  "http://www.moleculin.com/20200930/role/statement-note-7-commitments-and-contingencies-details-textual"
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 "xbrltype": "domainItemType"
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    "label": "Employees [Member]"
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 "nsuri": "http://www.moleculin.com/20200930",
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  "http://www.moleculin.com/20200930/role/statement-note-5-equity-details-textual"
 ],
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    "label": "Equity Classified Warrants [Member]"
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  }
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 "presentation": [
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  "http://www.moleculin.com/20200930/role/statement-note-6-warrants-details-textual",
  "http://www.moleculin.com/20200930/role/statement-note-6-warrants-warrants-outstanding-details"
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  "http://www.moleculin.com/20200930/role/statement-note-5-equity-details-textual"
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 "xbrltype": "domainItemType"
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"mbrx_GoingConcernPolicyPolicyTextBlock": {
 "auth_ref": [],
 "lang": {
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   "role": {
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    "label": "Going Concern Policy [Policy Text Block]"
   }
  }
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 "localname": "GoingConcernPolicyPolicyTextBlock",
 "nsuri": "http://www.moleculin.com/20200930",
 "presentation": [
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 "xbrltype": "textBlockItemType"
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 "auth_ref": [],
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    "label": "Houston Pharmaceuticals, Inc [Member]"
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  "http://www.moleculin.com/20200930/role/statement-note-7-commitments-and-contingencies-details-textual"
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 "auth_ref": [],
 "calculation": {
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   "order": 2.0,
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   "weight": 1.0
  }
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 "crdr": "credit",
 "lang": {
  "en-US": {

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   "role": {
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    "label": "2025 and thereafter"
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  }
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 "nsuri": "http://www.moleculin.com/20200930",
 "presentation": [
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 "auth_ref": [],
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    "label": "Liability Classified Warrants [Member]"
   }
  }
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  "http://www.moleculin.com/20200930/role/statement-note-6-warrants-warrant-activity-details",
  "http://www.moleculin.com/20200930/role/statement-note-6-warrants-warrants-outstanding-details"
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"mbrx_LicenseAgreementsExpense": {
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 "lang": {
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    "label": "mbrx_LicenseAgreementsExpense",
    "terseLabel": "License Agreements Expense"
   }
  }
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"mbrx_LincolnParkMember": {
 "auth_ref": [],
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    "label": "Lincoln Park [Member]"
   }
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 "nsuri": "http://www.moleculin.com/20200930",
 "presentation": [
  "http://www.moleculin.com/20200930/role/statement-condensed-consolidated-statements-of-stockholders-equity-unaudited",
  "http://www.moleculin.com/20200930/role/statement-note-8-subsequent-events",
  "http://www.moleculin.com/20200930/role/statement-note-8-subsequent-events-details-textual"
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    "label": "MD Anderson [Member]"
   }
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  "http://www.moleculin.com/20200930/role/statement-note-7-commitments-and-contingencies-details-textual"
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 "xbrltype": "domainItemType"
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"mbrx_NatureOfBusinessAndLiquidityTextBlock": {
 "auth_ref": [],
 "lang": {
  "en-US": {
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    "label": "Nature of Business and Liquidity [Text Block]"
   }
  }
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   }
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"mbrx_NotesToFinancialStatementsAbstract": {
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"mbrx_NumberOfApproachesToTreatingCancerOfDrugCandidates": {
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 "lang": {
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    "label": "mbrx_NumberOfApproachesToTreatingCancerOfDrugCandidates",
    "terseLabel": "Number of Approaches to Treating Cancer of Drug Candidates"
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  }
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    "terseLabel": "Number of Core Drug Technologies"
   }
  }
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    "terseLabel": "Number of Drug Candidates"
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 ],
 "xbrltype": "integerItemType"
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 "calculation": {
  "http://www.moleculin.com/20200930/role/statement-condensed-consolidated-statements-of-cash-flows-unaudited": {
   "order": 8.0,
   "parentTag": "us-gaap_NetCashProvidedByUsedInOperatingActivities",
   "weight": 1.0
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 "crdr": "debit",
 "lang": {
  "en-US": {
   "role": {
    "documentation": "The amount of noncash expense for operating lease, net of sublease receipts.",
    "label": "Operating lease, net of sublease receipts"
   }
  }
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 "localname": "OperatingLeaseNoncashExpenseNetOfSubleaseReceipts",
 "nsuri": "http://www.moleculin.com/20200930",
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 "xbrltype": "monetaryItemType"
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"mbrx_OppenheimerCoUnderwriterWarrantMember": {
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 "lang": {
  "en-US": {
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    "documentation": "Represents the underwriter warrant to Oppenheimer Co.",
    "label": "Oppenheimer Co, Underwriter Warrant [Member]"
   }
  }
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 "localname": "OppenheimerCoUnderwriterWarrantMember",
 "nsuri": "http://www.moleculin.com/20200930",
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  "http://www.moleculin.com/20200930/role/statement-note-6-warrants-details-textual"
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 "xbrltype": "domainItemType"
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 "auth_ref": [],
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    "documentation": "The cancellation period for other commitments.",
    "label": "mbrx_OtherCommitmentsCancellationPeriod",
    "terseLabel": "Other Commitments, Cancellation Period (Day)"
   }
  }
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"mbrx_OtherCommitmentsNumberOfAgreements": {
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   "role": {
    "documentation": "The number of agreements of other commitments.",
    "label": "mbrx_OtherCommitmentsNumberOfAgreements",
    "terseLabel": "Other Commitments, Number of Agreements"
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  }
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 "xbrltype": "integerItemType"
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"mbrx_PurchaseAgreementCommonStockMaximumAggregateCommitment": {
 "auth_ref": [],
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 "lang": {
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    "documentation": "The maximum amount of common stock to be sold under the purchase agreement.",
    "label": "mbrx_PurchaseAgreementCommonStockMaximumAggregateCommitment",
    "terseLabel": "Purchase Agreement, Common Stock, Maximum Aggregate Commitment"
   }
  }
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 "localname": "PurchaseAgreementCommonStockMaximumAggregateCommitment",
 "nsuri": "http://www.moleculin.com/20200930",
 "presentation": [
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 ],
 "xbrltype": "monetaryItemType"
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"mbrx_PurchaseAgreementMaximumAggregateCommitmentNumberOfAdditionalSharesIssued": {
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 "lang": {
  "en-US": {
   "role": {
    "documentation": "The number of additional shares that can be issued if the maximum aggregate commitment is purchased under the purchase agreement.",
    "label": "mbrx_PurchaseAgreementMaximumAggregateCommitmentNumberOfAdditionalSharesIssued",
    "terseLabel": "Purchase Agreement, Maximum Aggregate Commitment, Number of Additional Shares Issued (in shares)"
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 "xbrltype": "textBlockItemType"
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 "localname": "ScheduleOfWarrantsOrRightsAssumptionsUsedTableTextBlock",
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   "role": {
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    "label": "mbrx_ShareBasedCompensationArrangementByShareBasedPaymentAwardNumberOfInstallmentPeriods",
    "terseLabel": "Share Based Compensation Arrangement by Share Based Payment Award, Number of Installment Periods"
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 "nsuri": "http://www.moleculin.com/20200930",
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    "terseLabel": "Share Based Compensation Arrangement by Share Based Payment Award, Options, Grants in Period, Aggregate Fair Value"
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  }
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    "label": "Exercisable, weighted average grant date fair value (in dollars per share)"
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  }
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 "nsuri": "http://www.moleculin.com/20200930",
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    "label": "mbrx_SharesIssuedAveragePricePerShare",
    "terseLabel": "Shares Issued, Average Price Per Share (in dollars per share)"
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   }
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    "terseLabel": "Stock Issued During Period, Shares, Additional Commitment Shares (in shares)"
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 "nsuri": "http://www.moleculin.com/20200930",
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    "label": "mbrx_StockIssuedDuringPeriodSharesCommitmentConsideration",
    "terseLabel": "Stock Issued During Period, Shares, Commitment Consideration (in shares)"
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    "label": "Common stock issued for license rights (in shares)"
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 "presentation": [
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 "xbrltype": "sharesItemType"
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    "documentation": "The number of shares of stock issued during the period for warrant exercises.",
    "label": "Warrants exercised (in shares)"
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 "localname": "StockIssuedDuringPeriodSharesWarrantExercises",
 "nsuri": "http://www.moleculin.com/20200930",
 "presentation": [
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"mbrx_StockIssuedDuringPeriodValueLicenseRights": {
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    "label": "Common stock issued for license rights"
   }
  }
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    "label": "Warrants exercised"
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    "label": "The 2015 Stock Plan [Member]"
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  "http://www.moleculin.com/20200930/role/statement-note-5-equity-details-textual"
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  "http://www.moleculin.com/20200930/role/statement-note-5-equity-details-textual"
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    "label": "The 2020 ATM Agreement [Member]"
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  "http://www.moleculin.com/20200930/role/statement-note-8-subsequent-events-details-textual"
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"mbrx_VendorPrepaymentsAndDeposits": {
 "auth_ref": [],
 "calculation": {
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   "weight": 1.0
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 "lang": {
  "en-US": {
   "role": {
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    "label": "Vendor prepayments and deposits"
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  }
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 "nsuri": "http://www.moleculin.com/20200930",
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 "xbrltype": "monetaryItemType"
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"mbrx_VendorPrepaymentsAndDepositsExpansionOfProductionCommitments": {
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"presentation": [
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"xbrltype": "textBlockItemType"
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"us-gaap_DeferredCostsCapitalizedPrepaidAndOtherAssetsDisclosureTextBlock": {
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"r27"
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"lang": {
"en-US": {
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"label": "Deferred Costs, Capitalized, Prepaid, and Other Assets Disclosure [Table Text Block]"
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"localname": "DeferredCostsCapitalizedPrepaidAndOtherAssetsDisclosureTextBlock",
"nsuri": "http://fasb.org/us-gaap/2020-01-31",
"presentation": [
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"us-gaap_DepreciationDepletionAndAmortization": {
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"r108"
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"calculation": {
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"weight": 1.0
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"http://www.moleculin.com/20200930/role/statement-condensed-consolidated-statements-of-operations-and-comprehensive-loss-unaudited": {
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"lang": {
"en-US": {
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"label": "Depreciation and amortization"
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"localname": "DepreciationDepletionAndAmortization",
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"http://www.moleculin.com/20200930/role/statement-condensed-consolidated-statements-of-operations-and-comprehensive-loss-unaudited"
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"xbrltype": "monetaryItemType"
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"auth_ref": [
"r36",
"r39",
"r229",
"r283"
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"lang": {
"en-US": {
"role": {
"documentation": "Fair value, before effects of master netting arrangements, of a financial liability or contract with one or more underlyings, notional amount or payment provision or both, and the contract can be net settled by means outside the contract or delivery of an asset. Includes liabilities elected not to be offset. Excludes liabilities not subject to a [illegible]",
"label": "Fair value of warrant liability"
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"localname": "DerivativeFairValueOfDerivativeLiability",
"nsuri": "http://fasb.org/us-gaap/2020-01-31",
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"us-gaap_DerivativeLiabilitiesNoncurrent": {
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"order": 2.0,
"parentTag": "us-gaap_Liabilities",
"weight": 1.0
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"lang": {
"en-US": {
"role": {
"documentation": "Fair value, after the effects of master netting arrangements, of a financial liability or contract with one or more underlyings, notional amount or payment provision or both, and the contract can be net settled by means outside the contract or delivery of an asset, expected to be settled after one year or the normal operating cycle, if longer. In[illegible]",
"label": "Warrant liability - long-term"
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"localname": "DerivativeLiabilitiesNoncurrent",
"nsuri": "http://fasb.org/us-gaap/2020-01-31",
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"xbrltype": "monetaryItemType"
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"us-gaap_DisclosureTextBlockAbstract": {
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"lang": {
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"terseLabel": "Notes to Financial Statements"
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"localname": "DisclosureTextBlockAbstract",
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"http://www.moleculin.com/20200930/role/statement-note-2-basis-of-presentation-principles-of-consolidation-and-significant-accounting-policies",
"http://www.moleculin.com/20200930/role/statement-note-3-accrued-expenses-and-other-current-liabilities",
"http://www.moleculin.com/20200930/role/statement-note-4-warrants",
"http://www.moleculin.com/20200930/role/statement-note-5-equity",
"http://www.moleculin.com/20200930/role/statement-note-6-income-taxes",
"http://www.moleculin.com/20200930/role/statement-note-7-commitments-and-contingencies",
"http://www.moleculin.com/20200930/role/statement-note-8-subsequent-events"
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"auth_ref": [
"r2",
"r11",
"r16",
"r77",
"r268"
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"http://www.moleculin.com/20200930/role/statement-note-2-basis-of-presentation-principles-of-consolidation-and-significant-accounting-policies-prepaid-expenses-and-other-current-assets-details": {
"order": 4.0,
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"weight": 1.0
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"lang": {
"en-US": {
"role": {
"documentation": "The aggregate amount of receivables to be collected from related parties where one party can exercise control or significant influence over another party; including affiliates, owners or officers and their immediate families, pension trusts, and so forth, at the financial statement date. which are usually due within one year (or one business cycle[illegible]",
"label": "Related party receivables"
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"nsuri": "http://fasb.org/us-gaap/2020-01-31",
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"r79",
"r268"
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"http://www.moleculin.com/20200930/role/statement-note-3-accrued-expenses-and-other-current-liabilities-accrued-expenses-and-other-current-liabilities-details": {
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"weight": 1.0
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"en-US": {
"role": {
"documentation": "Carrying amount as of the balance sheet date of obligations due all related parties. For classified balance sheets, represents the current portion of such liabilities (due within one year or within the normal operating cycle if longer).",
"label": "Related party payable"
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}
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"localname": "DueToRelatedPartiesCurrent",
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"us-gaap_EarningsPerShareBasicAndDiluted": {
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"r94"
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"lang": {
"en-US": {
"role": {
"documentation": "The amount of net income or loss for the period per each share in instances when basic and diluted earnings per share are the same amount and reported as a single line item on the face of the financial statements. Basic earnings per share is the amount of net income or loss for the period per each share of common stock or unit outstanding during[illegible]",
"label": "Net loss per common share - basic and diluted (in dollars per share)"
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"localname": "EarningsPerShareBasicAndDiluted",
"nsuri": "http://fasb.org/us-gaap/2020-01-31",
"presentation": [
"http://www.moleculin.com/20200930/role/statement-condensed-consolidated-statements-of-operations-and-comprehensive-loss-unaudited"
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"xbrltype": "perShareItemType"
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"us-gaap_EarningsPerSharePolicyTextBlock": {
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"r73",
"r95",
"r96"
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"lang": {
"en-US": {
"role": {
"documentation": "Disclosure of accounting policy for computing basic and diluted earnings or loss per share for each class of common stock and participating security. Addresses all significant policy factors, including any antidilutive items that have been excluded from the computation and takes into account stock dividends, splits and reverse splits that occur a[illegible]",
"label": "Earnings Per Share, Policy [Policy Text Block]"
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"nsuri": "http://fasb.org/us-gaap/2020-01-31",
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"http://www.moleculin.com/20200930/role/statement-significant-accounting-policies-policies"
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"us-gaap_EffectOfExchangeRateOnCashCashEquivalentsRestrictedCashAndRestrictedCashEquivalents": {
"auth_ref": [
"r266"
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"calculation": {
"http://www.moleculin.com/20200930/role/statement-condensed-consolidated-statements-of-cash-flows-unaudited": {
"order": 2.0,
"parentTag": "us-gaap_CashCashEquivalentsRestrictedCashAndRestrictedCashEquivalentsPeriodIncreaseDecreaseIncludingExchangeRateEffect",
"weight": 1.0
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"crdr": "debit",
"lang": {
"en-US": {
"role": {
"documentation": "Amount of increase (decrease) from effect of exchange rate changes on cash and cash equivalents, and cash and cash equivalents restricted to withdrawal or usage; held in foreign currencies. Excludes amounts for disposal group and discontinued operations. Cash includes, but is not limited to, currency on hand, demand deposits with banks or financia[illegible]",
"label": "Effect of exchange rate changes on cash and cash equivalents"
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"localname": "EffectOfExchangeRateOnCashCashEquivalentsRestrictedCashAndRestrictedCashEquivalents",
"nsuri": "http://fasb.org/us-gaap/2020-01-31",
"presentation": [
"http://www.moleculin.com/20200930/role/statement-condensed-consolidated-statements-of-cash-flows-unaudited"
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"xbrltype": "monetaryItemType"
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"auth_ref": [
"r207"
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"role": {
"documentation": "Percentage of current income tax expense (benefit) and deferred income tax expense (benefit) pertaining to continuing operations.",
"label": "us-gaap_EffectiveIncomeTaxRateContinuingOperations",
"terseLabel": "Effective Income Tax Rate Reconciliation, Percent, Total"
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"localname": "EffectiveIncomeTaxRateContinuingOperations",
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"xbrltype": "percentItemType"
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"us-gaap_EmployeeRelatedLiabilitiesCurrent": {
"auth_ref": [
"r30"
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"calculation": {
"http://www.moleculin.com/20200930/role/statement-note-3-accrued-expenses-and-other-current-liabilities-accrued-expenses-and-other-current-liabilities-details": {
"order": 4.0,
"parentTag": "us-gaap_AccruedLiabilitiesCurrent",
"weight": 1.0
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"crdr": "credit",
"lang": {
"en-US": {
"role": {
"documentation": "Total of the carrying values as of the balance sheet date of obligations incurred through that date and payable for obligations related to services received from employees, such as accrued salaries and bonuses, payroll taxes and fringe benefits. Used to reflect the current portion of the liabilities (due within one year or within the normal opera[illegible]",
"label": "Accrued payroll and bonuses"
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"localname": "EmployeeRelatedLiabilitiesCurrent",
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"presentation": [
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"xbrltype": "monetaryItemType"
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"us-gaap_EmployeeServiceShareBasedCompensationNonvestedAwardsTotalCompensationCostNotYetRecognized": {
"auth_ref": [
"r196"
],
"crdr": "debit",
"lang": {
"en-US": {
"role": {
"documentation": "Amount of cost not yet recognized for nonvested award under share-based payment arrangement.",
"label": "us-gaap_EmployeeServiceShareBasedCompensationNonvestedAwardsTotalCompensationCostNotYetRecognized",
"terseLabel": "Share-based Payment Arrangement, Nonvested Award, Cost Not yet Recognized, Amount, Total"
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"localname": "EmployeeServiceShareBasedCompensationNonvestedAwardsTotalCompensationCostNotYetRecognized",
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"http://www.moleculin.com/20200930/role/statement-note-5-equity-details-textual"
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"role": {
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"label": "us-gaap_EmployeeServiceShareBasedCompensationNonvestedAwardsTotalCompensationCostNotYetRecognizedPeriodForRecognition1",
"terseLabel": "Share-based Payment Arrangement, Nonvested Award, Cost Not yet Recognized, Period for Recognition (Year)"
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"localname": "EmployeeServiceShareBasedCompensationNonvestedAwardsTotalCompensationCostNotYetRecognizedPeriodForRecognition1",
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"http://www.moleculin.com/20200930/role/statement-note-5-equity-details-textual"
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"xbrltype": "durationItemType"
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"us-gaap_EmployeeStockOptionMember": {
"auth_ref": [
"r191"
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"lang": {
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"role": {
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"label": "Share-based Payment Arrangement, Option [Member]"
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"localname": "EmployeeStockOptionMember",
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"http://www.moleculin.com/20200930/role/statement-note-5-equity-details-textual"
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"en-US": {
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"label": "Equity Component [Domain]"
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"http://www.moleculin.com/20200930/role/statement-condensed-consolidated-statements-of-stockholders-equity-unaudited"
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"xbrltype": "domainItemType"
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"us-gaap_EquityMethodInvestmentOwnershipPercentage": {
"auth_ref": [
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"lang": {
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"documentation": "The percentage of ownership of common stock or equity participation in the investee accounted for under the equity method of accounting.",
"label": "us-gaap_EquityMethodInvestmentOwnershipPercentage",
"terseLabel": "Equity Method Investment, Ownership Percentage"
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"localname": "EquityMethodInvestmentOwnershipPercentage",
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"xbrltype": "percentItemType"
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"us-gaap_FairValueAdjustmentOfWarrants": {
"auth_ref": [
"r64",
"r142"
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"http://www.moleculin.com/20200930/role/statement-condensed-consolidated-statements-of-cash-flows-unaudited": {
"order": 7.0,
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"http://www.moleculin.com/20200930/role/statement-condensed-consolidated-statements-of-operations-and-comprehensive-loss-unaudited": {
"order": 0.0,
"parentTag": "us-gaap_IncomeLossFromContinuingOperationsBeforeIncomeTaxesExtraordinaryItemsNoncontrollingInterest",
"weight": -1.0
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"crdr": "debit",
"lang": {
"en-US": {
"role": {
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"label": "Change in fair value of warrant liability",
"negatedLabel": "Gain from change in fair value of warrant liability"
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"localname": "FairValueAdjustmentOfWarrants",
"nsuri": "http://fasb.org/us-gaap/2020-01-31",
"presentation": [
"http://www.moleculin.com/20200930/role/statement-condensed-consolidated-statements-of-cash-flows-unaudited",
"http://www.moleculin.com/20200930/role/statement-condensed-consolidated-statements-of-operations-and-comprehensive-loss-unaudited"
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"r230",
"r231",
"r232",
"r239",
"r240"
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"en-US": {
"role": {
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"label": "Fair Value Measurements, Recurring and Nonrecurring [Table Text Block]"
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"localname": "FairValueAssetsAndLiabilitiesMeasuredOnRecurringAndNonrecurringBasisTableTextBlock",
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"r156",
"r157",
"r159",
"r231",
"r274",
"r275",
"r276"
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"lang": {
"en-US": {
"role": {
"documentation": "Information by level within fair value hierarchy and fair value measured at net asset value per share as practical expedient.",
"label": "Fair Value Hierarchy and NAV [Axis]"
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},
"localname": "FairValueByFairValueHierarchyLevelAxis",
"nsuri": "http://fasb.org/us-gaap/2020-01-31",
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"http://www.moleculin.com/20200930/role/statement-note-2-basis-of-presentation-principles-of-consolidation-and-significant-accounting-policies-assets-and-liabilities-at-fair-value-measured-on-a-recurring-basis-details",
"http://www.moleculin.com/20200930/role/statement-note-2-basis-of-presentation-principles-of-consolidation-and-significant-accounting-policies-level-3-liabilities-details"
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"us-gaap_FairValueByLiabilityClassAxis": {
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"r240"
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"label": "Liability Class [Axis]"
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"localname": "FairValueByLiabilityClassAxis",
"nsuri": "http://fasb.org/us-gaap/2020-01-31",
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"http://www.moleculin.com/20200930/role/statement-note-2-basis-of-presentation-principles-of-consolidation-and-significant-accounting-policies-level-3-liabilities-details"
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"r157",
"r159",
"r231",
"r274"
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"label": "Fair Value, Inputs, Level 1 [Member]"
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"localname": "FairValueInputsLevel1Member",
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"http://www.moleculin.com/20200930/role/statement-note-2-basis-of-presentation-principles-of-consolidation-and-significant-accounting-policies-assets-and-liabilities-at-fair-value-measured-on-a-recurring-basis-details"
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"r151",
"r152",
"r157",
"r159",
"r231",
"r275"
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"en-US": {
"role": {
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"label": "Fair Value, Inputs, Level 2 [Member]"
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"localname": "FairValueInputsLevel2Member",
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"http://www.moleculin.com/20200930/role/statement-note-2-basis-of-presentation-principles-of-consolidation-and-significant-accounting-policies-assets-and-liabilities-at-fair-value-measured-on-a-recurring-basis-details"
],
"xbrltype": "domainItemType"
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"r153",
"r154",
"r155",
"r156",
"r157",
"r159",
"r231",
"r276"
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"lang": {
"en-US": {
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"label": "Fair Value, Inputs, Level 3 [Member]"
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"localname": "FairValueInputsLevel3Member",
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"http://www.moleculin.com/20200930/role/statement-note-2-basis-of-presentation-principles-of-consolidation-and-significant-accounting-policies-level-3-liabilities-details"
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"xbrltype": "domainItemType"
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"us-gaap_FairValueLiabilitiesMeasuredOnRecurringBasisUnobservableInputReconciliationByLiabilityClassDomain": {
"auth_ref": [
"r235"
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"lang": {
"en-US": {
"role": {
"documentation": "Represents classes of liabilities measured and disclosed at fair value.",
"label": "Fair Value by Liability Class [Domain]"
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 "en-US": {
  "role": {
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   "label": "us-gaap_ShareBasedCompensationArrangementByShareBasedPaymentAwardOptionsOutstandingWeightedAverageExercisePrice",
   "periodEndLabel": "Outstanding, weighted average exercise price (in dollars per share)",
   "periodStartLabel": "Outstanding, weighted average exercise price (in dollars per share)"
  }
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"localname": "ShareBasedCompensationArrangementByShareBasedPaymentAwardOptionsOutstandingWeightedAverageExercisePrice",
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 "http://www.moleculin.com/20200930/role/statement-note-5-equity-stock-option-activity-details"
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"xbrltype": "perShareItemType"
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"us-gaap_ShareBasedCompensationArrangementsByShareBasedPaymentAwardAwardTypeAndPlanNameDomain": {
"auth_ref": [
 "r163",
 "r169"
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  "role": {
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   "label": "Award Type [Domain]"
  }
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"localname": "ShareBasedCompensationArrangementsByShareBasedPaymentAwardAwardTypeAndPlanNameDomain",
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 "http://www.moleculin.com/20200930/role/statement-note-5-equity-details-textual",
 "http://www.moleculin.com/20200930/role/statement-note-5-equity-restricted-stock-unit-activity-details"
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"xbrltype": "domainItemType"
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   "label": "Exercised, weighted average exercise price (in dollars per share)"
  }
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"localname": "ShareBasedCompensationArrangementsByShareBasedPaymentAwardOptionsExercisesInPeriodWeightedAverageExercisePrice",
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"xbrltype": "perShareItemType"
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"lang": {
 "en-US": {
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   "documentation": "Weighted average price at which grantees could have acquired the underlying shares with respect to stock options that were terminated.",
   "label": "Forfeited, weighted average exercise price (in dollars per share)"
  }
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"localname": "ShareBasedCompensationArrangementsByShareBasedPaymentAwardOptionsForfeituresInPeriodWeightedAverageExercisePrice",
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"xbrltype": "perShareItemType"
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   "label": "Granted, weighted average exercise price (in dollars per share)"
  }
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"localname": "ShareBasedCompensationArrangementsByShareBasedPaymentAwardOptionsGrantsInPeriodWeightedAverageExercisePrice",
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"xbrltype": "perShareItemType"
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"us-gaap_ShareBasedCompensationOptionAndIncentivePlansPolicy": {
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 "r73",
 "r165",
 "r170"
],
"lang": {
 "en-US": {
  "role": {
   "documentation": "Disclosure of accounting policy for award under share-based payment arrangement. Includes, but is not limited to, methodology and assumption used in measuring cost.",
   "label": "Share-based Payment Arrangement [Policy Text Block]"
  }
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},
"localname": "ShareBasedCompensationOptionAndIncentivePlansPolicy",
"nsuri": "http://fasb.org/us-gaap/2020-01-31",
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 "r167"
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   "label": "us-gaap_SharebasedCompensationArrangementBySharebasedPaymentAwardExpirationPeriod",
   "terseLabel": "Share-based Compensation Arrangement by Share-based Payment Award, Expiration Period (Year)"
  }
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"xbrltype": "durationItemType"
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"auth_ref": [
 "r187",
 "r201"
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"lang": {
 "en-US": {
  "role": {
   "documentation": "Expected term of award under share-based payment arrangement, in 'PnYnMnDTnHnMnS' format, for example, 'P1Y5M13D' represents reported fact of one year, five months, and thirteen days.",
   "label": "Expected life (years) (Year)"
  }
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},
"localname": "SharebasedCompensationArrangementBySharebasedPaymentAwardFairValueAssumptionsExpectedTerm1",
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],
"xbrltype": "durationItemType"
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"auth_ref": [
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"crdr": "debit",
"lang": {
 "en-US": {
  "role": {
   "documentation": "Amount of difference between fair value of the underlying shares reserved for issuance and exercise price of vested portions of options outstanding and currently exercisable.",
   "label": "Exercisable, aggregate intrinsic value"
  }
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"localname": "SharebasedCompensationArrangementBySharebasedPaymentAwardOptionsExercisableIntrinsicValue1",
"nsuri": "http://fasb.org/us-gaap/2020-01-31",
"presentation": [
 "http://www.moleculin.com/20200930/role/statement-note-5-equity-stock-option-activity-details"
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"xbrltype": "monetaryItemType"
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 "r195"
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"lang": {
 "en-US": {
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   "label": "Exercisable, weighted average remaining contractual term (Year)"
  }
 }
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"localname": "SharebasedCompensationArrangementBySharebasedPaymentAwardOptionsExercisableWeightedAverageRemainingContractualTerm1",
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"xbrltype": "durationItemType"
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"us-gaap_SharebasedCompensationArrangementBySharebasedPaymentAwardOptionsNonvestedOptionsForfeitedWeightedAverageGrantDateFairValue": {
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"lang": {
 "en-US": {
  "role": {
   "documentation": "Weighted average grant-date fair value of non-vested options forfeited.",
   "label": "Forfeited, weighted average grant date fair value (in dollars per share)"
  }
 }
},
"localname": "SharebasedCompensationArrangementBySharebasedPaymentAwardOptionsNonvestedOptionsForfeitedWeightedAverageGrantDateFairValue",
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  "role": {
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   "label": "us-gaap_SharebasedCompensationArrangementBySharebasedPaymentAwardOptionsNonvestedWeightedAverageGrantDateFairValue",
   "periodEndLabel": "Outstanding, weighted average grant date fair value (in dollars per share)",
   "periodStartLabel": "Outstanding, weighted average grant date fair value (in dollars per share)"
  }
 }
},
"localname": "SharebasedCompensationArrangementBySharebasedPaymentAwardOptionsNonvestedWeightedAverageGrantDateFairValue",
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 "http://www.moleculin.com/20200930/role/statement-note-5-equity-stock-option-activity-details"
],
"xbrltype": "perShareItemType"
},
"us-gaap_SharebasedCompensationArrangementBySharebasedPaymentAwardOptionsOutstandingWeightedAverageRemainingContractualTerm2": {
"auth_ref": [
 "r185"
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 "en-US": {
  "role": {
   "documentation": "Weighted average remaining contractual term for option awards outstanding, in 'PnYnMnDTnHnMnS' format, for example, 'P1Y5M13D' represents the reported fact of one year, five months, and thirteen days.",
   "label": "Outstanding, weighted average remaining contractual term (Year)"
  }
 }
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  }
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 "http://www.moleculin.com/20200930/role/statement-condensed-consolidated-statements-of-stockholders-equity-unaudited-parentheticals",
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