April 3, 2017

Moleculin Biotech, Inc. Reports Financial Results for the Fourth Quarter and Year Ended December 31, 2016

Recently Received Orphan Drug Designation for Annamycin

HOUSTON, TX -- (Marketwired) -- 04/03/17 -- Moleculin Biotech, Inc., (NASDAQ: MBRX) ("Moleculin" or the "Company"), a preclinical pharmaceutical company focused on the development of anti-cancer drug candidates, some of which are based on license agreements with The University of Texas System on behalf of the M.D. Anderson Cancer Center ("MD Anderson"), today announced its financial and operating results for the fourth quarter and year ended December 31, 2016.

2016 Accomplishments & Recent Highlights:

- Received Orphan Drug Designation for Annamycin by the U.S. Food and Drug Administration ("FDA") for the treatment of acute myeloid leukemia ("AML"). The FDA grants orphan drug designation to drugs and biologics that are intended for the treatment of rare diseases that affect fewer than 200,000 people in the U.S. Orphan drug status is intended to facilitate drug development for rare diseases and may provide several benefits to drug developers, including tax credits for qualified clinical trial costs, exemptions from certain FDA application fees, and seven years of market exclusivity upon regulatory product approval;
- Recently the Company filed its investigative new drug ("IND") application, with a Phase I/II approach with the intent of increasing the Maximum Tolerable Dose ("MTD"), for Annamycin. In subsequent discussions, the FDA requested certain revisions to the protocol, additional information, and additional data related to Chemistry, Manufacturing and Controls ("CMC"). The Company indicates it has the additional information, has made the requested revisions to the protocol, and is working on developing the CMC data. In the interim, Moleculin has withdrawn the IND application, in order to resubmit it when the requested data is available. The Company believes that the resubmission of the IND application will occur in time for the IND to go into effect and allow for clinical trials to begin in the first half of 2017. However, if the Company is unable to obtain the required CMC data on a timely basis, it will be delayed in resubmitting its IND application, which will delay the commencement of its clinical trials beyond the first half of 2017;
- Announced the closing of an underwritten public offering of securities for net proceeds of approximately $4.4 million. Roth Capital Partners and National Securities Corporation acted as joint book-running managers. Subsequently, approximately $0.8 million of additional funds have been received through the exercise of associated warrants to the transaction bringing the total net raised in excess of $5 million;
- Announced that Drs. Sandra Silberman and Paul Waymack have joined the

Company's Scientific Advisory Board ("SAB"). The Company's current SAB also includes Dr. Waldemar Priebe (Chair) and Dr. Madeleine Duvic;
- Updated the Annamycin clinical strategy to add a Phase I arm to its next Phase II trial that leverages a potential increase in the MTD, which could increase the chance for positive outcomes. The Company believes that it will be able to publicly announce results from its Phase I/II clinical trial sometime in 2018;
- An MD Anderson physician is sponsoring an IND for WP1066 for the treatment of brain tumors. While the Company is not participating in nor has influence on this IND process, the MD Anderson physician has submitted an IND to the FDA and has indicated that this IND is on hold until documentation of Good Manufacturing Process or GMP production of WP1066 can be presented to the FDA, which Moleculin has agreed to provide. The Company expects that this IND will eventually move forward in 2017 and may produce publishable clinical results in 2018;
- Benefitting from additional grant funded research at MD Anderson;
- Announced initial results on the preclinical toxicology work for WP1122. Preliminary escalating single dose toxicity testing in mice was completed. No toxic death was observed and the drug was well tolerated;
- Appointed a new CFO, Jonathan P. Foster; and
- Completed successful initial public offering ("IPO").

Planned activities and milestones for the remainder of 2017:

- With regard to Annamycin, the Company resubmitting and the FDA permitting its IND to go into effect and the announcement of the beginning of Phase I/II clinical trials;
- With regard to WP1066, FDA permitting a physician sponsored IND to go into effect, and the announcement of the beginning of a Phase I clinical trial;
- Benefits of Sponsored Research Agreements with MD Anderson; and
- Strengthening license and IP portfolio.

Walter Klemp, Chairman and CEO of Moleculin stated: "We are pleased with the accomplishments during our first year as a public company and into 2017. Our recent receipt of Orphan Drug designation is extremely important because it may provide significant benefits, including tax credits, exemption from certain fees, and market exclusivity upon approval. We remain focused on executing on our clinical programs and look forward to announcing additional key milestones as they are achieved. We believe we have sufficient funds to pursue our planned operations into the first quarter of 2018."

Audited Financial Results for the Year Ended December 31, 2016
Research and development (R&D) expense was $1,495,561 and $260,418 for the twelve months ended December 31, 2016 and for the period from July 28, 2015 (inception) to December 31, 2015, respectively. The increase of approximately $1,235,000 mainly represents an increase of approximately: $253,000 related to an increase in R&D headcount and associated payroll costs, $111,000 for sponsored research and related expenses; approximately $660,000 associated with developing and testing drug product as we prepare for clinical trials; and, $245,000 related to travel, consultants, and other research costs associated in preparing our IND and Orphan Drug applications with the FDA. These increases were offset by an approximate $34,000 reduction in patent prosecution and other expenses.

General and administrative expense was $2,381,424 and $477,810 for the twelve months

ended December 31, 2016 and for the period from July 28, 2015 (inception) to December 31, 2015, respectively. The expense increase of approximately $1,904,000 was mainly attributable to: (a) the increase in headcount and associated payroll costs of $648,000 including severance of $118,000 and roughly $254,000 of stock based compensation and deferred salary; (b) approximately $584,000 in legal, accounting, consulting, and other professional expenses; (c) approximately $389,000 in public company costs; (d) approximately $183,000 in insurance expense; (e) roughly $50,000 in travel expenses; and (f) approximately $50,000 in occupancy, office and other costs. These increases are directly related to our being fully operational versus this period a year ago.

We utilize outside consultants. Total wages paid to our employees, including our CEO, CFO, COO, CMO plus two other employees, were approximately $549,000, predominately in the second half of the year.

The net loss for the twelve months ended December 31, 2016 was $3,926,361 which included non-cash expenses of approximately $450,000, which included $6,000 for depreciation and $324,000 for stock based compensation and other stock based expenses and a one-time expense of roughly $120,000 related to the severance of our former Chief Financial Officer. This loss for the period is a significant increase from the loss for the period from July 28, 2015 (inception) to December 31, 2015 of $748,360 as we had, at that time, just begun operations.

As of December 31, 2016, we had $5,007,216 in cash. During the period from January 1, 2016 through May 2, 2016, we sold 234,297 shares of common stock for $702,894. On May 31, 2016, we completed our initial public offering, pursuant to which we sold 1,540,026 shares of our common stock at $6.00 per share for net proceeds of $8,464,183 after deducting underwriting discounts and commissions and direct offering expenses payable by us. In February 2017, we completed a public offering of our common stock and warrants, pursuant to which we received approximately $4.4 million in net proceeds, after deducting underwriting discounts and commissions and estimated offering expenses. We believe that our existing cash and cash equivalents as of December 31, 2016 along with the cash generated by the February 2017 offering described above will be sufficient to fund our planned operations into the first quarter of 2018.

Net cash used in operating activities was $3,764,905 for the twelve months ended December 31, 2016 compared to $423,509 for the period from inception to December 31, 2015. This increase in use of cash for operations is due to our becoming operational post IPO in mid-2016. This mainly included payments made for payroll, travel, insurance and professional fees to our consultants, attorneys and accountants for services related to our becoming a publicly traded company and related filing fees, along with payments made to MD Anderson for license and maintenance fees.

Net cash used in investing activities was $121,108 for the twelve months ended December 31, 2016 and primarily represents the cash paid as part of the acquisition of Moleculin, LLC. No investing activities were done in the prior period.

Net cash provided by financing activities was $8,865,138 for the twelve months ended December 31, 2016 compared to the prior period of $451,600. We received $8,464,183 net proceeds from our IPO stock issuance, $705,894 from issuance of common stock at $3.00 per share, and $165,000 from issuance of convertible notes. The prior period financing

activities mainly consisted of the issuance of convertible notes payable. Net cash used in financing activities included approximately $470,000 for payments of notes payable.

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(Tables to follow)

About Moleculin Biotech, Inc.

Moleculin Biotech, Inc. is a preclinical stage pharmaceutical company focused on the development of anti-cancer drug candidates, some of which are based on discoveries made at M.D. Anderson Cancer Center. Our lead product candidate is Annamycin, an anthracycline for the treatment of relapsed or refractory acute myeloid leukemia, more commonly referred to as AML. We also have two preclinical small molecule portfolios, one of which is focused on the modulation of hard-to-target tumor cell signaling mechanisms and the recruitment of the patient's own immune system. The other portfolio targets the metabolism of tumors.

For more information about the offering, please visithttp://www.moleculin.com.

Forward-Looking Statements

Some of the statements in this release are forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, Section 21E of the Securities Exchange Act of 1934 and the Private Securities Litigation Reform Act of 1995, which involve risks and uncertainties. Forward-looking statements in this press release include, without limitation, the Company obtaining the CMC data required by FDA on a timely basis, FDA permitting the Company sponsored IND for Annamycin to go into effect, the announcement of the beginning of Phase I/II clinical trials, and the establishment of the MTD for Annamycin, the Company benefitting from additional grant funded research at MD Anderson, the strengthening of license and IP positions relative to and the future advancement and potential commercialization of WP1122 and WP1066, and whether an IND related to WP1066 will move forward in 2017 and whether it will produce publishable clinical results in 2018. These statements relate to future events, future expectations, plans and prospects. Although Moleculin believes that the expectations reflected in such forward-looking statements are reasonable as of the date made, expectations may prove to have been materially different from the results expressed or implied by such forward-looking statements. Moleculin has attempted to identify forward-looking statements by terminology including "believes," "estimates," "anticipates," "expects," "plans," "projects," "intends," "potential," "may," "could," "might," "will," "should," "approximately" or other words that convey uncertainty of future events or outcomes to identify these forward-looking statements. These statements are only predictions and involve known and unknown risks, uncertainties, and other factors, including those discussed under Item 1A. "Risk Factors" in our Form 10-K for year ended December 31, 2016 filed with the Securities and Exchange Commission ("SEC") and updated from time to time in its public filings with the SEC. Any forward-looking statements contained in this release speak only as of its date. We undertake no obligation to update any forward-looking statements contained in this release to reflect events or circumstances occurring after its date or to reflect the occurrence of unanticipated events.

Moleculin Biotech, Inc.
Balance Sheets

	December 31, 2016	December 31, 2015
Assets		
Current Assets:		
Cash and cash equivalents	$ 5,007,216	$ 28,091
Prepaid expenses	215,052	-
Total current assets	5,222,268	28,091
Long-Term Assets:		
Furniture and equipment, net of accumulated depreciation of $6,162 and $0, respectively	23,128	-
Intangible assets	11,147,540	-
Total Assets	$ 16,392,936	$ 28,091
Liabilities and Stockholders' Equity		
Current Liabilities:		
Accounts payable and accrued expenses	$ 1,048,655	$ 322,790
Convertible notes payable	296,412	450,000
Total current liabilities	1,345,067	772,790
Long-term deferred compensation - related party	87,500	-
Total Liabilities	1,432,567	772,790
Commitments and contingencies		
Stockholders' Equity:		
Preferred stock, $0.001 par value; 5,000,000 authorized, no shares issued and outstanding	-	-
Common stock, $0.001 par value; 75,000,000 authorized, 12,164,852 and 6,661,000 shares issued and outstanding, respectively	12,165	6,661
Subscription receivable	-	(3,000)
Additional paid-in capital	19,622,925	-
Accumulated deficit	(4,674,721)	(748,360)
Total Stockholders' Equity (Deficit)	14,960,369	(744,699)
Total Liabilities and Stockholders' Equity (Deficit)	$ 16,392,936	$ 28,091

Moleculin Biotech, Inc.
Statements of Operations

	Year Ended December 31, 2016	From July 28, 2015 (Inception) Through December 31, 2015
Revenue	$ -	$ -
Operating expenses:		
Research and development	1,495,561	260,418
General and administrative	2,381,424	477,810
Depreciation	6,162	-
Total Operating Expenses	3,883,147	738,228
Loss from operations	(3,883,147)	(738,228)
Other expense:		
Interest expense	(43,214)	(10,132)
Net loss	$ (3,926,361)	$ (748,360)
Net loss per common share - basic and diluted	$ (0.40)	$ (0.13)
Weighted average common shares outstanding - basic and diluted	9,827,510	5,691,803

Moleculin Biotech, Inc.
Statements of Cash Flows

	Year Ended December 31, 2016	From July 28, 2015 (Inception) Through December 31, 2015
Cash Flows from Operating Activities:		
Net loss	$ (3,926,361)	$ (748,360)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation	6,162	-
Stock-based compensation	323,974	-
Deferred CEO compensation	87,500	
Stock issued for licenses used for research and development	-	2,061

Changes in operating assets and liabilities:		
Prepaid expenses	(215,052)	
Accounts payable and accrued expenses	(41,128)	322,790
Net Cash Used in Operating Activities	(3,764,905)	(423,509)
Cash Flows from Investing Activities:		
Cash paid for purchase of fixed assets	(21,470)	-
Cash paid for acquisition of Moleculin, LLC, net with cash acquired	(99,638)	-
Net Cash Used in Investing Activities	(121,108)	-
Cash Flows from Financing Activities:		
Proceeds from notes payable	165,000	450,000
Payments on notes payable	(469,939)	-
Proceeds from sale of common stock, net of cash stock issuance costs	9,170,077	1,600
Net Cash Provided by Financing Activities	8,865,138	451,600
Net change in cash and cash equivalents	4,979,125	28,091
Cash and cash equivalents, at beginning of period	28,091	-
Cash and cash equivalents, at end of period	$ 5,007,216	$ 28,091
Supplemental disclosures of cash flow information:		
Cash paid for interest	$ 4,585	$ -
Cash paid for income taxes	$ -	$ -
Supplemental disclosure of non-cash investing and financing activities:		
Common stock issued for the Acquisition of Moleculin, LLC	$ 9,773,586	$ -
Common stock issued for conversion of debt	$ 363,792	$ -
Warrants issued for services provided	$ 374,763	$ -
Common stock issued for services provided	$ 157,680	$ -
Shares subscribed	$ -	$ 3,000

Moleculin Biotech, Inc.
Statements of Stockholders' Equity

	Common Stock		Additional Paid-In-	Subscriptions	Accumulated	Stockh Eq
	Number	Amount	Capital	Receivable	Loss	(De
Stock issued for cash and subscription receivable	4,600,000	$ 4,600	$ -	$ (3,000)	$ -	$

Stock issued for licenses	2,061,000	2,061	-	-	-	
Net loss	-	-	-	-	(748,360)	(7
Balance at December 31, 2015	6,661,000	6,661	-	(3,000)	(748,360)	(7
Private issuance @ $3.00 / share	234,297	234	702,660	-	-	7
Issued for Moleculin acquisition	999,931	1,000	5,998,586	-	-	5,9
Issued for technology	629,000	629	3,773,371	-	-	3,7
Issued for cash - IPO, net of stock issuance costs of $1,150,736	1,540,026	1,540	8,087,880	-	-	8,0
Warrants issued for services	-	-	374,763	-	-	3
Stock granted for services	24,000	24	157,656	-	-	1
Stock option expense	-	-	166,294	-	-	1
Issued for convertible debt	2,076,598	2,077	361,715	-	-	3
Subscription agreement settled for cash	-	-	-	3,000		
Net loss	-	-	-	-	(3,926,361)	(3,9
Balance at December 31, 2016	12,164,852	$12,165	$19,622,925	$ 0	$ (4,674,721)	$ 14,9

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Source: Moleculin Biotech, Inc.