

June 2, 2016



Moleculin Biotech, Inc. Completes Initial Public Offering

The Securities Will Start to Quote at 9:45 AM ET -- Scheduled to Begin Trading on NASDAQ on or About 10:00 AM ET

NEW YORK, NY and HOUSTON, TX -- (Marketwired) -- 06/02/16 -- Moleculin Biotech, Inc. (NASDAQ: MBRX) ("Moleculin" or the "Company") today announced that it closed an initial public offering ("IPO" and or the "Offering") of 1,540,026 common shares for gross proceeds of \$9,240,156. The IPO was priced at \$6.00 per share, the upper end of the previously-filed \$5.00 to \$6.00 pricing range. Moleculin's common shares will start to quote at 9:45 AM ET and scheduled to begin trading on NASDAQ Capital Market on or about 10:00 AM ET, under the symbol "MBRX."

The Company plans to use the net proceeds of the offering to commence a further Phase II clinical trial for Annamycin, an anthracycline for the treatment of relapsed or refractory acute myeloid leukemia, more commonly referred to as AML. Other uses of the MBRX IPO funding include license maintenance and IP prosecution costs, research, and general working capital purposes.

Bonwick Capital Partners, LLC, acted as Lead Bookrunner and Lead Underwriter, and Network 1 Financial Securities, Inc. acted as Co-Underwriter for the Offering.

Moleculin's registration statement relating to the Offering has been filed with, and declared effective by, the United States Securities and Exchange Commission (SEC). This press release does not constitute an offer to sell or a solicitation of an offer to buy the securities described herein, nor shall there be any sale of these securities in any state or jurisdiction in which such an offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such state or jurisdiction.

The Offering of the securities is made only by means of a prospectus forming a part of the effective registration statement. A copy of the prospectus relating to the Offering may be obtained by contacting Bonwick Capital Partners, LLC, 40 West 57th Street, 28th Floor, New York, New York 10019, Attention: Daniel McClory, Managing Director, Investment Banking or email dan.mcclory@bonwickcapital.com or by calling (949) 502-4408

Moleculin also announced today the launch of its investor website at www.moleculin.com. Investors may visit this website for information about the Company, its SEC filings, press releases and other information of interest to current and potential investors. The investor website is not a part of the IPO prospectus.

About Moleculin Biotech, Inc.

Moleculin Biotech, Inc. is a preclinical and clinical-stage pharmaceutical company focused

on the development of anti-cancer drug candidates, many of which are based on discoveries made at M.D. Anderson Cancer Center. Our lead product candidate is Annamycin, a Phase II clinical stage anthracycline for the treatment of relapsed or refractory acute myeloid leukemia, more commonly referred to as AML. We also have two active pre-clinical 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 visit <http://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. These statements relate to future events, future expectations, plans and prospects. Although Moleculin Biotech 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 Biotech 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 the heading "Risk Factors" in our Registration Statement on Form S-1 originally filed with the Securities and Exchange Commission on February 1, 2016, as amended (Registration No. 333-209323). 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.

Contacts:

Walter Klemp

Chairman

Moleculin Biotech Inc.

wklemp@moleculin.com

PCG Advisory

Investors:

Kirin M. Smith

Chief Operating Officer

D: 646.863.6519

Media:

Sean Leous

sleous@pcgadvisory.com

Chief Communications Officer

D: 646.893.8998

PCGAdvisory.com

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