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Moleculin Announces Preparation to File an IND with the FDA for WP1220 for Treatment of Cutaneous T-Cell Lymphoma

HOUSTON, TX -- (Marketwired) -- 06/13/17 -- 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, today announced it has begun taking steps to file an IND with the FDA for its molecule WP1220 for the treatment of Cutaneous T-Cell Lymphoma (CTCL), a rare form of skin cancer.

Moleculin's WP1220 (aka MOL4239) has data demonstrating significant activity in preclinical studies and is being studied as a possible topical treatment for CTCL. The FDA previously granted an IND to WP1220 for development as a topical treatment of psoriasis, and although the molecule completed a Phase I clinical trial, providing initial data suggesting safety in humans, Phase II clinical trials did not demonstrate sufficient activity to warrant further development for that indication. To pursue further development of WP1220, the Company believes the data used to support the prior IND may allow for a quicker pathway to an IND for CTCL.

"Our primary focus has been further developing our most advanced and promising drug, Annamycin, for the treatment of acute myeloid leukemia," commented Walter Klemp, Chairman and CEO of Moleculin. "Nevertheless, we believe some of the less advanced technologies in our portfolio have significant potential in other cancer indications. WP1220 is a great example of such potentially useful technology, and because the FDA previously found the data package supporting an IND for WP1220 to be adequate in another context, we are hopeful that we can expeditiously move forward to studying the molecule in humans for the topical treatment of this potentially deadly skin disease."

Mr. Klemp added: "Developing WP1220 for indications like CTCL may provide opportunities for strategic collaboration and out-licensing while maintaining our ability to develop other molecules to their highest and best potential. We will be actively looking for such opportunities to help fund the projects we believe hold the most potential for Moleculin stakeholders."

About Moleculin Biotech, Inc.

Moleculin Biotech, Inc. is a preclinical 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, a Phase II clinical stage anthracycline being studied for the treatment of relapsed or refractory acute myeloid

leukemia, more commonly referred to as AML. We also have two pre-clinical small molecule development 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, and the other of which targets the metabolism of tumors.

For more information about Moleculin, 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's ability to timely prepare an IND for WP1220 based on prior data, FDA permitting the Company sponsored IND for WP1220 to go into effect, the ability of WP1220 to show activity in a CTCL clinical trial and the ability of other molecules in the WP1066 portfolio to show activity in other cancers, and the ability of Moleculin to create and/or derive funding from strategic collaboration and out-licensing arrangements. 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 Item 1A. "Risk Factors" in our most recently filed Form 10-K filed with the Securities and Exchange Commission ("SEC") and updated from time to time in our Form 10-Q filings and in our other 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.

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