

August 9, 2016



Moleculin Expands Research Sponsorship at MD Anderson Cancer Center

Facilitates Access to Grant Funding and Cutting Edge Research Capability

HOUSTON, TX -- (Marketwired) -- 08/09/16 -- Moleculin Biotech, Inc., (NASDAQ: MBRX) ("Moleculin" or the "Company"), a preclinical and clinical-stage 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 agreed to extend through August of 2017 and expand its sponsored research agreement with MD Anderson Cancer Center (MD Anderson), the world's largest cancer research facility.

Moleculin's Chairman and CEO, Walter Klemp, commented, "The research we have sponsored to date at MD Anderson has generated some very promising new technologies, including WP1066, a novel small molecule that is an effective stimulator of patients' natural immune response and inducer of tumor cell death in the in vivo models of even the most difficult to treat cancers." He added, "We are now extending and expanding this agreement in light of new indications that we may be able to improve upon the WP1066 technology significantly."

Dr. Waldemar Priebe, Professor of Medicinal Chemistry at MD Anderson and Scientific Advisor to Moleculin, a shareholder and inventor of licensed technology, explained, "We are very excited about the potential for orally administered WP1066 in clinic, and we are now actively investigating expansion of clinical uses of Moleculin's licensed therapeutics and researching their methods of administration while preserving drugability of this and similar compounds. For example, the injectable/iv administered versions of WP1066 would greatly expand its clinical applications and commercial potential. The continued research sponsored by Moleculin could make this possible."

Mr. Klemp concluded, "Moleculin's continuing research sponsorship also facilitates access to grant funding from both public and private sources, and we are pleased that the expansion of this critical research collaboration will provide access to cutting edge research capability and potentially create more patentable discoveries."

About Moleculin Biotech, Inc.

Moleculin Biotech, Inc. is a preclinical and clinical-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, 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 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 Moleculin, 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. Forward-looking statements in this press release include, without limitation, successfully developing improvements to WP1066 and similar molecules and gaining access to grant funding and research capabilities. 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.

PCG Advisory Group

Investors:

Kirin M. Smith

Chief Operating Officer

D: 646.863.6519

E: ksmith@pcgadvisory.com

Source: Moleculin Biotech, Inc.