



# Actinium Pharmaceuticals Appoints Dr. Dale L. Ludwig, Ph.D. as Chief Scientific Officer to Lead Efforts Focused on the Company's AWE Technology Platform and Research Programs

- Dr. Ludwig brings over 20 years of leadership and management expertise from Eli Lilly and Company and Imclone Systems, Inc. in oncology antibody therapeutics discovery and development where he supported the development and launch of Erbitux®, Cyramza™, Portrazza®, and Lartruvo™, and the clinical advancement of 10 additional therapeutic antibodies
- Actinium's recently announced Actinium Warhead Enabling Technology Platform is focused on the generation of antibody radio-conjugates and biobetters designed to expand Actinium's pipeline and facilitate collaborations

NEW YORK, Jan. 08, 2018 (GLOBE NEWSWIRE) -- **Actinium Pharmaceuticals, Inc.** (NYSE American:ATNM) ("Actinium" or "the Company"), announced today that Dr. Dale L. Ludwig has been appointed Chief Scientific Officer. Dr. Ludwig joins Actinium from Eli Lilly and Company, and prior to that Imclone Systems Inc., serving most recently as Chief Scientific Officer/Vice President, Oncology Discovery Research – Biologics Technology. Dr. Ludwig will be responsible for leading the Company's initiatives on its Actinium Warhead Enabling (AWE) Technology Platform and the AWE Program that is focused on the utilization of the payload actinium-225 (Ac<sup>225</sup>) in conjunction with targeting agents to create Antibody Radio-Conjugates or ARC's and bio-betters with the goal of expanding Actinium's clinical pipeline and facilitating collaborations. In addition, Dr. Ludwig will also lead preclinical program development and support clinical development programs via translational research efforts.

"I am incredibly excited and honored to be joining Actinium Pharmaceuticals," said Dr. Dale Ludwig. "Having worked successfully in the discovery and development of therapeutic antibodies for oncology most of my professional career, I recognized the potential therapeutic value of Actinium's ARC or Antibody Radio-Conjugate approach utilizing an actinium-225 isotope payload. Actinium has assembled a team that is committed to the advancement of this potentially transformational technology with its Ac<sup>225</sup> based clinical programs and to further develop the AWE Technology Platform. I am thrilled to be a part of the Actinium team and to contribute to building a pioneering company that creates value through the development of novel ARC based therapeutics that improve patient outcomes."

Dr. Ludwig was a member of the Oncology Research Senior Leadership Team at Eli Lilly and Company. Dr. Ludwig brings to Actinium proven leadership and research management expertise through his work at Eli Lilly and prior to that at Imclone Systems Inc. where he supported the development and successful launch of several biologic oncology drugs including Erbitux®, Cyramza™, Portrazza®, and Lartruvo™ as well as the clinical advancement of 10 additional therapeutic antibodies. Most recently, Dr. Ludwig served Chief Scientific Officer/Vice President of Oncology Discovery Research - Biologics Technology at Eli Lilly. In this role he was responsible for directing antibody discovery and development for oncology biologics and contributed to key strategic and project advancement efforts. In addition, Dr. Ludwig also brings significant alliance management experience having directed the empowered antibody drug discovery programs that included collaborations with Immunogen and Zymeworks.

Sandesh Seth, Actinium's Chairman and CEO said, "Dr. Ludwig has enjoyed a successful career at Eli Lilly and Imclone where he developed and built his expertise in biologic drug discovery and development as well as his leadership skills, making him the ideal addition to the Actinium team. I am incredibly excited to have Dale on board, particularly at this pivotal juncture in Actinium's progression and am confident that under his leadership the Company will have significant accomplishments related to its research efforts and further development of the AWE Technology Platform. Clearly our industry leading CD33 Program is a testimony to the power of the AWE technology platform and the ability of ARC's to be effective where antibody-arming approaches using toxins have less potential, as evidenced by our initiatives with Actimab-M and Actimab-MDS. Dr. Ludwig is well suited to drive future efforts to utilize the power of the AWE technology for both the Company and collaborators. It is exciting to continue to strengthen the leadership team at Actinium. With each successive hire our capabilities become amplified which enables us to better drive toward the expected clinical milestones related to the Iomab-B, Actimab-A, Actimab-M and Actimab-MDS programs as well as our AWE platform, and to unlock the value inherent in Actinium."

### **About Our Actinium Warhead Enabling Technology Platform**

The Actinium Warhead Enabling (AWE) Technology Platform enables a highly potent and selective form of targeted therapy that combines the powerful alpha-emitting radioisotope actinium-225 with targeting agents which are designed to seek out cancer cells in the body that express particular markers. Actinium-225 emits significant alpha radiation making it a potent treatment modality against targeted cancer cells while limiting damage to healthy tissues as its radiation travels extremely short distances in the body. When labeled to targeting agents, actinium-225 can be delivered directly to cancer cells where the high linear energy transfer resulting from the emission of alpha particles results in irreparable DNA double stranded breaks and ultimately cancer cell death. Despite this superior cell killing power, actinium-225 when delivered in a targeted manner is sparing of the surrounding environment in the body due to the short path length of its alpha-particle radiation and can result in a superior safety profile. Actinium Pharmaceuticals owns or has licensed the rights to several issued and pending patents that pertain to its AWE Technology Platform including technology to manufacture actinium-225 in a cyclotron. In addition, the Company has developed considerable know-how, expertise and validated processes related to production of Antibody Radio-Conjugates or ARC's, management of the supply chain, and dealing with various regulatory bodies. The AWE Technology Platform can be utilized to potentially improve the cell-killing power of targeting agents such as antibodies, peptides, Fab

fragments, nanobodies etc. via labeling with actinium-225. In addition to increased efficacy, these actinium-225 enhanced targeting agents can offer optimized dosing or administration and in the case of approved targeting agents provide an opportunity to extend intellectual property protection by the creation of biobetters or improved versions of the approved agent. The Company's Actinium Warhead Enabling (AWE) Program can be accessed by biopharmaceutical companies that are interested in creating biobetters through the utilization of the AWE Platform Technology. To learn more about the AWE Technology Platform or the AWE Program please contact Keisha Thomas, Ph.D., Corporate Development at [kthomas@actiniumpharma.com](mailto:kthomas@actiniumpharma.com).

## About Actinium Pharmaceuticals, Inc.

Actinium Pharmaceuticals Inc. is a clinical-stage biopharmaceutical company focused on developing and commercializing targeted therapies for potentially superior myeloablation and conditioning of the bone marrow prior to a bone marrow transplant and for the targeting and killing of cancer cells. Our targeted therapies have demonstrated the potential to result in significantly improved access to bone marrow transplant with better outcomes, namely increased marrow engraftment and survival. Our targeted therapies are ARC's or Antibody Radio-Conjugates that combine the targeting ability of monoclonal antibodies with the cell killing ability of radioisotopes. Three of our four ARC drug candidates are based on our AWE or Actinium Warhead Enabling Technology Platform that utilizes the isotope Actinium-225 (Ac<sup>225</sup>) that emits alpha particles. We are currently conducting clinical trials for our four product candidates; Iomab-B, Actimab-A, Actimab-M and Actimab-MDS, as well as performing research on other potential drug candidates utilizing our proprietary AWE Technology Platform. Our most advanced product candidate, Iomab-B, an ARC developed by the Fred Hutchinson Cancer Research Center, is comprised of an anti-CD45 monoclonal antibody labeled with iodine-131. We are currently conducting a pivotal Phase 3 trial of Iomab-B for myeloablation and conditioning of the bone marrow prior to a bone marrow transplant for patients with relapsed or refractory acute myeloid leukemia (AML) age 55 and older. A bone marrow transplant is a potentially curative treatment for patients with AML and other blood cancers including leukemias, lymphomas and multiple myeloma as well as certain blood disorders. Iomab-B has been tested in several of these other cancers with over five hundred patients treated in several Phase 1 and 2 trials with promising results. Upon successful completion of our Phase 3 clinical trial for Iomab-B we intend to submit this candidate for marketing approval in the U.S. and European Union where it has been designated as an Orphan Drug. We are also developing a potentially best in class CD33 program using an ARC comprised of the anti-CD33 monoclonal antibody lintuzumab labeled with the alpha-particle emitter actinium-225. Our most advanced CD33 program candidate, Actimab-A, is currently in a Phase 2 clinical trial for patients advanced over the age of 60 who are newly diagnosed with AML and ineligible for standard induction chemotherapy. Actimab-A also has Orphan Drug designation in the US and EU. Actimab-M, our second CD33 targeting ARC, is being studied in a Phase 1 trial for patients with refractory multiple myeloma. Actinium is also planning a Phase 2 trial for Actimab-MDS, our third CD33 program candidate, as a conditioning regimen prior to a bone marrow transplant for patients with MDS that have a p53 genetic mutation. Our AWE or Actinium Warhead Enabling Technology Platform, originally developed in conjunction with Memorial Sloan Kettering Cancer Center, is focused on leveraging Actinium's know how and intellectual property to create additional ARC drug candidates by labeling Ac<sup>225</sup> to targeting moieties that we will either progress in clinical trials ourselves or out-license.

More information is available at [www.actiniumpharma.com](http://www.actiniumpharma.com) and our Twitter feed @ActiniumPharma, [www.twitter.com/actiniumpharma](http://www.twitter.com/actiniumpharma).

**Forward-Looking Statements for Actinium Pharmaceuticals, Inc.**

This news release contains "forward-looking statements" as defined in the Private Securities Litigation Reform Act of 1995. These statements are based on management's current expectations and involve risks and uncertainties, which may cause actual results to differ materially from those set forth in the statements. The forward-looking statements may include statements regarding product development, product potential, or financial performance. No forward-looking statement can be guaranteed, and actual results may differ materially from those projected. Actinium Pharmaceuticals undertakes no obligation to publicly update any forward-looking statement, whether as a result of new information, future events, or otherwise.

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