April 11, 2022

Actinium Pharmaceuticals Presents Preclinical Data at AACR Showing HER3 Targeted Radiotherapy Combined with the CD47 Immunotherapy Magrolimab Increases the Anti-tumor Effect

- Data further expand Actinium's leadership in combining targeted radiotherapy with CD47 immunotherapy in solid tumors and blood cancers
- Significant increase in tumor control with the HER3 ARC magrolimab combination compared to magrolimab alone in HER3-expressing NSCLC in vivo model supports further development

NEW YORK, April 11, 2022 /PRNewswire/ -- **Actinium Pharmaceuticals, Inc.** (NYSE AMERICAN: ATNM) ("Actinium" or the "Company"), a leader in the development of targeted radiotherapies for patients with unmet needs, today announced that preclinical data highlighting the efficacy of the combination of an anti-HER3 antibody radiation conjugate (ARC) and a CD47 blocking antibody immunotherapy was presented at the American Association for Cancer Research (AACR 2021) annual meeting, which is being held April 8th – 13th at the Ernest N. Morial Convention Center in New Orleans, Louisiana. Actinium assessed an Actinium-225 (Ac-225)-conjugated anti-HER3 antibody with magrolimab, an anti-CD47 antibody being developed by Gilead Sciences, in HER3-positive preclinical models.

AACR Poster Highlights:

- Dramatic improvement in tumor growth inhibition is observed in vivo with the Ac-225-HER3-ARC and magrolimab combination therapy compared to magrolimab alone
- The combination of Ac-225-HER3-ARC and magrolimab significantly enhanced phagocytosis in HER3-positive cells compared to either single agent in vitro
- Upregulation of cell surface calreticulin is observed following treatment with ^{225}Ac-HER3-ARC in HER3-positive cell lines

Dr. Helen Kotanides, Vice President, Translational Research and Preclinical Development, said, "We hypothesize that the upregulation of the 'eat me' signal, calreticulin, induced by

targeted radiotherapy could enhance the immunomodulatory effects of an anti-CD47 antibody, resulting in increased anti-tumor efficacy. These data presented at AACR corroborate our previous work presented at SITC and support our rationale in targeting both blood cancer and solid tumors with a CD47 targeted radiotherapy combination. We are highly encouraged by the remarkable improvement in anti-tumor efficacy observed with the combination of an Ac-225-HER3-ARC with magrolimab. Collectively, the in vitro and in vivo data support further investigation of this novel combination and we look forward to continuing to advance the first ever targeted radiotherapy CD47 combinations."

Sandesh Seth, Chairman and CEO of Actinium, said, "We continue to demonstrate the potential of combining targeted radiotherapy with a CD47 blocking antibody immunotherapy such as magrolimab. These results support our vision to develop more effective treatments for cancer patients through the expansion of our pipeline into solid tumors and to develop innovative targeted radiotherapy combinations with immunotherapy leveraging our strong technology platform, IP and clinical experience. We are excited to highlight these results showing the potential for adding Ac-225-HER3 ARC to CD47 antibodies to enhance the latter's immunotherapeutic efficacy at AACR. These data along with our recent collaborations with EpicentRx and AVEO Oncology give us strong momentum towards the clinic with highly novel CD47-SIRPα combinations and HER3 targeted radiotherapies."

The full poster is available as an e-poster on the AACR 2022 platform with details below:

AACR Poster Details

Title: Anti-HER3 radioimmunotherapy enhances the anti-tumor effects of CD47 blockade in solid tumors
Session Category: Immunology
Session Title: Immune Checkpoints
Session Date and Time: Sunday, April 10, 2022, 1:30 PM – 5:00 PM
Location: New Orleans Convention Center, Exhibit Halls D-H, Poster Section 38
Poster Board Number: 19
Permanent Abstract Number: 609

The poster will be accessible via Actinium's websitehere.

About Actinium Pharmaceuticals, Inc.

Actinium Pharmaceuticals, Inc. is a clinical-stage biopharmaceutical company developing targeted radiotherapies to deliver cancer-killing radiation with cellular level precision to treat patients with high unmet needs not addressed by traditional cancer therapies. Actinium's current clinical pipeline is led by ARCs or Antibody Radiation-Conjugates that are being applied to targeted conditioning, which is intended to selectively deplete a patient's disease or cancer cells and certain immune cells prior to a BMT or Bone Marrow Transplant, Gene Therapy or Adoptive Cell Therapy (ACT) such as CAR-T to enable engraftment of these transplanted cells with minimal toxicities. Actinium's targeted conditioning ARCs seek to improve patient outcomes and access to these potentially curative treatments by eliminating or reducing the non-targeted chemotherapy that is used for conditioning in standard practice currently. Our lead product candidate, Iomab-B (I-131 apamistamab) has been studied in several hundred patients including in the 150-patient, pivotal Phase 3 Study of Iomab-B in Elderly Relapsed or Refractory Acute Myeloid Leukemia (SIERRA) trial for BMT

conditioning, which completed patient enrollment in the third quarter of 2021. Iomab-ACT, low dose I-131 apamistamab is being studied as a targeted conditioning agent in a Phase 1 study with a CD19 CAR T-cell Therapy with Memorial Sloan Kettering Cancer Center. In addition, we are leaders in the field of Actinium-225 alpha therapies. Actimab-A, our clinical stage CD33 targeting ARC alpha therapy has been studied in nearly 150 patients including our ongoing combination trials with the salvage chemotherapy CLAG-M and the Bcl-2 targeted therapy venetoclax. Underpinning our clinical programs is our proprietary AWE (Antibody Warhead Enabling) technology platform. This is where our intellectual property portfolio of over 170 patents, know-how, collective research and expertise in the field are being leveraged to construct and study novel ARCs and ARC combinations such as with CD47 immunotherapies to bolster our pipeline for strategic purposes. Our AWE technology platform is currently being utilized in a collaborative research partnership with Astellas Pharma, Inc., AVEO Oncology and EpicentRx. Website: https://www.actiniumpharma.com/

Forward-Looking Statements for Actinium Pharmaceuticals, Inc.

This press release may contain projections or other "forward-looking statements" within the meaning of the "safe-harbor" provisions of the private securities litigation reform act of 1995 regarding future events or the future financial performance of the Company which the Company undertakes no obligation to update. These statements are based on management's current expectations and are subject to risks and uncertainties that may cause actual results to differ materially from the anticipated or estimated future results, including the risks and uncertainties associated with preliminary study results varying from final results, estimates of potential markets for drugs under development, clinical trials, actions by the FDA and other governmental agencies, regulatory clearances, responses to regulatory matters, the market demand for and acceptance of Actinium's products and services, performance of clinical research organizations and other risks detailed from time to time in Actinium's filings with the Securities and Exchange Commission (the "SEC"), including without limitation its most recent annual report on form 10-K, subsequent quarterly reports on Forms 10-Q and Forms 8-K, each as amended and supplemented from time to time.

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View original content to download multimedia:https://www.prnewswire.com/news-releases/actinium-pharmaceuticals-presents-preclinical-data-at-aacr-showing-her3-targeted-radiotherapy-combined-with-the-cd47-immunotherapy-magrolimab-increases-the-anti-tumor-effect-301522451.html

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