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Actinium Pharmaceuticals, Inc. Reports 2 Remissions and 67% ORR in Patients with a TP53 Mutation in the Phase 1 portion of the Actimab-A Venetoclax Combination Trial in Patients with Relapsed or Refractory AML at the 63rd ASH Annual Meeting

- Data support the advancement to the Phase 2 portion of the trial to develop a first-in-class combination targeted radiotherapy with venetoclax in relapsed or refractory

- Actinium to explore development strategy for patients with TP53 mutation

NEW YORK, Dec. 14, 2021 /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 data from the Phase 1 portion of its Actimab-A and venetoclax combination trial in patients with relapsed or refractory acute myeloid leukemia (AML) was presented at the 63rd American Society of Hematology Annual Meeting and Exposition (ASH) that is being held December 11 – 14, 2021 in Atlanta, Georgia and virtually.

Patients enrolled in the study to date have been a median age of 64, with 75% of patients having adverse cytogenetics and 50% of patients having received and failed prior venetoclax and hypomethylating agent (HMA) therapy. The trial will continue to dose escalate to a fourth dose cohort of 1.5 µCi/kg to determine the dose for the Phase 2 portion of the study. Key findings from the study to date include:

- 67% overall response rate (ORR) with 2 remissions in patients with a TP53 mutation
- One patient achieving remission has been on study for over 230 days and remains in

follow-up after previously failing venetoclax HMA therapy before enrolling on Actimab-A study
- No early mortality (< 30 days) in the study to date

"Venetoclax has become a staple therapy for patients with AML, however, patients with relapsed or refractory disease continue to represent a major unmet medical need with median overall survival reported to be 5.5 months and only 3 months in patients that do not respond to venetoclax therapy. After confirming a mechanistic synergy between Actimab-A and venetoclax, we were eager to begin this combination clinical trial. This initial data is highly encouraging thus far, particularly the 2 remissions in patients with a TP53 mutation, which is associated with very poor clinical outcomes. These data support advancing to the Phase 2 portion of the study and based on the high response rates in TP53 patients, we will actively explore a development strategy with this patient population. We look forward to completing the Phase 1 dose escalation portion of this study, to determine the recommended Phase 2 dose so we can continue to advance this novel combination given the high unmet need of the patient population," said Avinash Desai, Actinium's Chief Medical Officer.

Venetoclax is a targeted therapy for patients with AML that targets Bcl-2, a protein that is overexpressed in certain cancers that enables cancer cells to evade apoptosis or programmed cell death. Actinium evaluated this novel combination after identifying that Actimab-A, via its targeted radiotherapy mechanism, could deplete Mcl-1, a protein that is upregulated in refractory AML cells and mediates resistance to venetoclax. In preclinical studies, Actinium showed that Actimab-A combined with venetoclax, resulted in greater AML cell killing than either Actimab-A or venetoclax alone and resulted in enhanced tumor regression and survival in venetoclax-resistance AML tumor models. The Phase 1/2 trial is a multi-center clinical trial that will enroll up to 38 patients with the Phase 2 portion of the trial to evaluate for safety, minimal residual disease status, disease free survival and overall survival.

Source:

Tenold et al. (2021) Outcomes of Adults with Relapsed/Refractory Acute Myeloid Leukemia Treated With Venetoclax Plus Hypomethylating Agents at a Comprehensive Cancer Center. Front. Oncol. 11:649209. doi: 10.3389/fonc.2021.649209

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, I-131 apamistamab (Iomab-B) has been studied in several hundred patients including in the recently completed, 150-patient, pivotal Phase 3

Study of Iomab-B in Elderly Relapsed or Refractory Acute Myeloid Leukemia (SIERRA) trial for BMT conditioning. 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 160 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. 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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