Acrivon Therapeutics Announces ACR-2316, a Novel Dual WEE1 and PKMYT1 Inhibitor Development Candidate, Designed Using Acrivon's AP3 Platform to Achieve Potent Single Agent Activity, as Demonstrated in Preclinical Studies

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Acrivon's Predictive Precision Proteomics (AP3) platform is a proprietary, broadly applicable, next-generation precision oncology platform at the forefront of the next wave of biology-driven drug discovery, in addition to its previously demonstrated utility in clinical development for treating patients based on predicted drug sensitivity

ACR-2316 is a novel, internally developed small molecule development candidate, rationally designed through advanced co-crystallography and the AP3 platform to achieve optimal target potency and selectivity delivering potent single agent anti-tumor activity across in vitro and in vivo preclinical studies, compared to benchmark WEE1 and PKMYT1 inhibitors

The AP3 platform has uniquely enabled the rapid generation of this novel dual inhibitor optimized to potentially overcome resistance mechanisms induced by WEE1 and PKMYT1 single inhibitors, and other mechanism-based liabilities

The company is prioritizing advancement of this molecule, with planned IND submission by the fourth quarter of 2024, to initiate clinical monotherapy development in tumor types predicted responsive to ACR-2316 through prior AP3-derived OncoSignature indication finding and subsequent treatment of patients based on OncoSignature-predicted sensitivity

WATERTOWN, Mass., Sept. 05, 2023 (GLOBE NEWSWIRE) -- Acrivon Therapeutics, Inc. ("Acrivon" or "Acrivon Therapeutics") (Nasdaq: ACRV), a clinical stage biopharmaceutical company developing precision oncology medicines that it matches to patients whose tumors are predicted to be sensitive to each specific medicine by utilizing its proprietary proteomics-based patient responder identification platform, today announced a novel, internally developed clinical candidate, ACR-2316, a dual WEE1 and PKMYT1 inhibitor. The company plans to prioritize Investigational New Drug (IND) enabling studies for ACR-2316 to be ready for IND submission by the fourth quarter of 2024.

"The rapid generation and optimized design of ACR-2316 further demonstrates the broad utility of the AP3 platform in drug discovery, in addition to its applications in clinical development," said Kristina Masson, Ph.D., M.B.A., co-founder, executive vice president, and site head of Acrivon AB, Acrivon Therapeutics' wholly-owned drug discovery and phosphoproteomics subsidiary in Medicon Village, Lund, Sweden. "This dual inhibitor development candidate is yet another powerful validation of our AI-enabled AP3 platform, which has been instrumental for the identification of this compound, optimized for strong single agent activity compared to existing WEE1 and PKMYT1 inhibitors."

"Previously, we have shown how AP3 can be used to develop drug-tailored predictive OncoSignature tests for effective identification of patients likely to respond to a given therapy, as we have done for our clinical stage CHK1/2 inhibitor, ACR-368," said Peter Blume-Jensen, M.D., Ph.D., chief executive officer, president, and founder of Acrivon Therapeutics. "We now believe that we have shown how AP3 can be used to go beyond the limitations of traditional drug discovery methods by enabling biological pathway-based rational design of development candidates with optimal target selectivity profile and potency, with ACR-2316 being the first example. This novel dual WEE1/PKMYT1 inhibitor has the potential to address significant unmet needs across many solid tumor types based on its compelling preclinical profile, with the potential for monotherapy development in tumors predicted to be sensitive to ACR-2316 using our OncoSignature patient selection approach."

Based on the emerging favorable preclinical profile of ACR-2316, the company has entered into IND-enabling studies. The compound is designed for high selectivity towards WEE1 and PKMYT1, exhibiting single-digit nM IC_{50} potency in a carefully predetermined ratio to ensure strong single agent anti-tumor activity, as demonstrated in tumor-bearing rodent models and other preclinical analyses. Using AP3 for unbiased quantitative high-resolution measurement of the effects of ACR-2316 on the human tumor cell phosphoproteome, this compound has been further optimized for potent induction of mitotic catastrophe, which is key to its strong single agent activity in preclinical models and potentially favorable clinical profile for monotherapy development.

"The preclinical data we have generated thus far is consistent with potential clinical advantages and possible differentiation compared to current single inhibitors of WEE1 and PKMYT1, both critically important cell cycle regulators with demonstrated clinical activity," said Erick Gamelin, M.D., Ph.D., chief medical officer of Acrivon. "We are particularly encouraged by its compelling target selectivity and preclinical potency profile. With ACR-2316, we have demonstrated that the company's data-driven, streamlined AP3 approach can generate molecules with desirable preclinical properties tailored for clinical monotherapy development."

Additional information regarding ACR-2316 can be found in the company's updated corporate presentation, which can be found on the company's website using this link.

About Acrivon Therapeutics
Acrivon is a clinical stage biopharmaceutical company developing precision oncology medicines that it matches to patients whose tumors are predicted to be sensitive to each specific medicine by utilizing Acrivon's proprietary proteomics-based patient responder identification platform, Acrivon Predictive Precision Proteomics, or AP3. The AP3 platform enables the creation of drug-specific proprietary OncoSignature companion diagnostics that are used to identify the patients most likely to benefit from Acrivon's drug candidates. Acrivon is currently advancing its lead candidate, ACR-368, a selective small molecule inhibitor targeting CHK1 and CHK2 in a potentially registrational Phase 2 trial across multiple tumor types. The company has received fast track designation from the Food and Drug Administration, or FDA, for the investigation of ACR-368 as monotherapy based on OncoSignature-predicted sensitivity in patients with platinum-resistant ovarian or endometrial cancer. Acrivon's ACR-368 OncoSignature test, which has not yet obtained regulatory approval, has been extensively evaluated in preclinical studies, including in two separate, blinded, prospectively-

designed studies on pretreatment tumor biopsies collected from past third-party Phase 2 trials in patients with ovarian cancer treated with ACR-368. In addition to ACR-368, Acrivon is also leveraging its proprietary AP3 precision medicine platform for developing its internally-discovered preclinical stage pipeline programs, consisting of its development candidate, ACR-2316, a selective, dual WEE1/PKMYT1 inhibitor, and additional programs targeting these two critical nodes in the DNA Damage Response, or DDR, pathways.

Forward-Looking Statements

This press release includes certain disclosures that contain "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995 about us and our industry that involve substantial risks and uncertainties. All statements other than statements of historical facts contained in this press release, including statements regarding our future results of operations or financial condition, business strategy and plans and objectives of management for future operations, are forward-looking statements. In some cases, you can identify forward-looking statements because they contain words such as "anticipate," "believe," "contemplate," "continue," "could," "estimate," "expect," "intend," "may," "plan," "potential," "predict," "project," "should," "target," "will," or "would" or the negative of these words or other similar terms or expressions. Forward-looking statements are based on Acrivon's current expectations and are subject to inherent uncertainties, risks and assumptions that are difficult to predict. Factors that could cause actual results to differ include, but are not limited to, risks and uncertainties that are described more fully in the section titled "Risk Factors" in our reports filed with the Securities and Exchange Commission. Forward-looking statements contained in this press release are made as of this date, and Acrivon undertakes no duty to update such information except as required under applicable law.

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