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Sutro ADC Effectively Targets Folate Receptor Alpha in Ovarian Cancer Preclinical Research

- Phase 1 Trial Planned for Late 2018 -

Company's First Cell-Free Protein Synthesis Drug for Solid Tumors

SOUTH SAN FRANCISCO, Calif., April 16, 2018 /PRNewswire/ -- Sutro Biopharma's first antibody drug conjugate (ADC) to treat solid tumors was highly effective against ovarian cancer in preclinical xenograft models and had an encouraging safety profile, according to studies presented today in Chicago at the annual meeting of the American Association for Cancer Research and on March 25th in New Orleans at the Society of Gynecologic Oncology's Annual Meeting on Women's Cancer.

The Sutro ADC, STRO-002, targets folate receptor alpha, a cell-surface protein highly expressed in ovarian cancer. STRO-002 demonstrated potent *in vitro* cytotoxicity in ovarian cancer cell lines and significantly inhibited tumor growth in multiple ovarian cancer xenograft models. In safety studies conducted in non-human primates, STRO-002 was well tolerated at clinically relevant doses. Ocular toxicity, a common, potentially dose-limiting side effect associated with other ADCs, was not observed, suggesting that more effective dosing and a better therapeutic index may be achieved in the clinic.

Sutro plans to file an investigational new drug application for STRO-002 in the second half of 2018 and to begin a Phase 1 clinical trial by year's end.

"Based on these findings, we are hopeful that STRO-002 will continue to demonstrate potent efficacy and improved tolerability as we complete preclinical studies and move into the clinic," Sutro CEO Bill Newell said.

"Ultimately, our goal is to help fill the unmet need for more targeted therapies with better tolerability for ovarian cancer and endometrial cancer," Mr. Newell added.

Building a Better ADC

"This research is another milestone in Sutro's evolution from a platform company to a clinical stage company with products entering the clinic and in late pre-clinical testing," said Dr. Arturo Molina, a medical oncologist and Sutro's Chief Medical Officer.

"While ocular toxicity has traditionally been dose-limiting in ADCs targeting cancer, Sutro's research suggests that oncologists might be able to achieve clinically-effective doses of STRO-002 before the development of ocular toxicity and other major side effects, because the drug directly targets cancer cells so efficiently," said Dr. Wendel Naumann, a professor

and associate director at the Levine Cancer Institute in Charlotte, North Carolina.

In a departure from the traditional approach of ADC design, Sutro is able to uniquely engineer each monoclonal antibody to optimize the efficiency for delivery of preferred cytotoxins for different tumor types. For STRO-002, Sutro used a proprietary drug-linker and hemiasterlin-derivative cytotoxin designed with properties tuned to the targeted solid tumor and microenvironment.

STRO-002 was developed with Sutro's proprietary cell-free protein synthesis and site-specific conjugation platforms, which facilitates precision design and rapid empirical optimization of ADCs. Sutro's platform enables design and manufacture of a highly optimized single molecular species within the product, rather than the usual mixture of imprecisely conjugated antibodies that comprise an ADC development product using conventional cell-based manufacturing platforms.

"The XpressCF+™ platform allows the incorporation of non-natural amino acids into specific positions on the generated antibody, allowing for site-specific conjugation of cytotoxins with a linker and warhead to enable consistent, stable, pinpoint placement of STRO-002's toxic payload resulting in highly efficient delivery of cytotoxin to tumor cells," Sutro's Chief Scientific Officer, Dr. Trevor Hallam, said. "By contrast, earlier generations of ADCs result in products with unpredictable pharmacologic properties that result in relatively sub-optimal stability, compromised efficacy and poor tolerability for patients."

Sutro's technology enables the company to iteratively discover and test molecules in a rapid cycle of weeks rather than months preclinically to rapidly determine the optimal molecular attributes for safety and potency.

Sutro's manufacturing center in San Carlos, California, the world's only cGMP cell-free manufacturing facility, is built to maximize the speed and efficiency of XtractCF™ cell-free extract and protein production. XtractCF™ is manufactured by a multi-day continuous process producing cell-free extract for large scale XpressCF™ and XpressCF+™ reactions.

This past October, Sutro received a manufacturing milestone payment from Celgene for successfully scaling-up production in its cGMP manufacturing facility.

About Sutro Biopharma

Sutro Biopharma, located in South San Francisco, has pioneered a compelling and unique way of discovering, developing and manufacturing therapeutics. Sutro's focus is primarily next generation cancer therapeutics — antibody drug conjugates, or ADCs, bispecific antibodies, and engineered cytokines and cytokine conjugates. Unconstrained by traditional methods of cell-based methods for protein discovery, Sutro can design and develop targeted medicines by efficiently combining both recombinant and synthetic components in drug design, establishing a new drug discovery and development paradigm.

Sutro's approach to discovery is also transcending the limitations of biologics manufacturing. Sutro's state-of-the-art manufacturing facility confers an important competitive advantage as Sutro launches its first clinical trial.

In addition to developing its own oncology pipeline, Sutro Biopharma is collaborating with

select pharmaceutical and biotech companies to discover and develop novel, next generation therapeutics. As the pace of clinical development accelerates, Sutro and its partners are demonstrating a more efficient approach to killing tumors without harming healthy cells.

Follow Sutro on Twitter, @Sutrobio, and atwww.sutrobio.com to learn more about our passion for changing the future of oncology.

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