Presage Biosciences Presents Proof-of-Concept Data for CIVO™ Preclinical Assessment Platform at AACR 2014 Annual Meeting

– Data Demonstrate Predictive Value for Arrayed Microinjection Assessment for Drug Candidates and Combinations Comparing Multiple Drugs in a Single Living Tumor –

Seattle – April 8, 2014 – Presage Biosciences, a biotechnology company focused on the bringing the earliest human efficacy data possible into cancer drug development, presented preclinical data showing that microinjection of several standard-of-care cancer drugs using its CIVO™ arrayed microinjection platform correlated with drug effects on tumor growth mediated by conventional systemic dosing of the drugs in a poster session at the American Association for Cancer Research (AACR) 2014 Annual Meeting in San Diego. The CIVO platform allows for simultaneous assessment of multiple drugs or drug combinations directly in a single solid tumor to assess efficacy, resistance and drug synergies.

"We know that more than 90% of new oncology drug candidates fail to provide benefit for patients in early clinical trials. Presage has developed a new technology that promises to improve preclinical candidate selection by incorporating crucial human efficacy data much earlier in the drug development process, before Phase 1 clinical trials begin," said Nathan Caffo, President of Presage. "The data presented today show that our CIVO technology not only can provide predictive and more efficient in vivo testing in animal models, but also sets the stage for a new type of pre-Phase 1 toxicity-sparing comparative drug efficacy study in humans."

In a poster presentation entitled "A Platform to Assess Multiple Therapy Options Simultaneously in a Patient's Own Tumor," Presage researchers presented results showing that arrayed drug microinjections via the CIVO device induced spatially defined, mechanism-specific tumor responses. In addition, CIVO analysis revealed that these outcomes correlated with responses to systemically delivered drugs and also identified pre-existing resistance to chemotherapy.

- Specifically, in this study, precise, controlled delivery of cytotoxic chemotherapy drugs vincristine and doxorubicin induced spatially defined, readily detectable, and mechanism-specific cellular changes around sites of tumor microinjection across three xenograft models of lymphoma. The extent of apoptosis induced via CIVO™ microdosing of each drug (<100x the effective dose used to treat human patients) correlated with drug effects on tumor growth followed by conventional systemic dosing of drug. Consistent with utility for detecting pre-

existing tumor resistance to certain drugs, responses to both vincristine and doxorubicin were greatly diminished in tumors derived from cells that had previously acquired resistance to doxorubicin.

Presage is evaluating its CIVO platform in a first-in-man feasibility clinical trial in collaboration with the National institutes of Health (NIH), National Cancer Institute (NCI) and Fred Hutchinson Cancer Research Center, evaluating response to locally injected drugs from the R-CHOP regimen in lymphoma patients and evaluating the safety profile of CIVO microinjections. CIVO is also being evaluated in preclinical models including canine cancer patients and xenograft human tumors in mice.

About Presage Biosciences

Presage Biosciences is a biotechnology company pioneering the use of early human efficacy data in drug development with its patented CIVO™ arrayed microinjection platform. The CIVO platform allows for simultaneous assessment of multiple drugs or drug combinations directly in a single solid tumor to assess efficacy, resistance and drug synergies. Presage partners with oncology-focused pharmaceutical companies through strategic alliances to provide in vivo data to validate novel targets, promote drug candidates to the right indications and discover effective drug combinations in drug development situations where it would otherwise be impractical or impossible to obtain. Presage is also actively pursuing drug compounds to in-license and is using CIVO to develop a portfolio of promising oncology therapies to advance to the clinic. Presage is privately held and based in Seattle. For more information, visit www.presagebio.com.

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