Atossa Therapeutics Reports Positive KARISMA-Endoxifen Trial Results:

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(Z)-Endoxifen Shown to Significantly Reduce Mammographic Breast Density, Potentially Paving the Way for Innovative Cancer Prevention Strategies

SEATTLE, Nov. 04, 2024 (GLOBE NEWSWIRE) -- Atossa Therapeutics, Inc. (Nasdaq: ATOS) ("Atossa" or the "Company"), a clinical-stage biopharmaceutical company developing innovative medicines for breast cancer, today released positive topline data from the KARISMA-Endoxifen Phase 2 study of (Z)-endoxifen in premenopausal women with mammographic breast density (MBD). The study, which was conducted through the Karolinska Institute in Stockholm, Sweden, demonstrated that low doses of (Z)-endoxifen significantly reduced MBD and was generally well tolerated. A video summary of the results can be found here.

Study Highlights:

- The Atossa sponsored ATOS-016R prevention trial included healthy women, randomized to daily placebo and 1 and 2 mg of (Z)-endoxifen. There were 80 women in each study arm and the study lasted six months.
- Mammographic breast density decrease was used as a proxy for therapy response. Measurements at six months or early terminations were compared to baseline density.
- No important differences in age, BMI or other background factors between randomization arms were seen.
- The relative significant density change was -19.3 percent and -26.5 percent for the 1 and 2 mg arms, respectively, using the placebo arm as a reference. No significant difference was seen comparing the 1 and 2 mg arms.
    - In a 2011 study, women with a breast density decrease of 10 percent or greater after taking tamoxifen for one year had a 62 percent reduction in breast cancer incidence after 5 years.
- No changes in hematological safety tests or vital signs were noted during the trial period.
- The mean endoxifen plasma concentration was 5.18 ng/mL in the 1 mg arm and 10.87 ng/mL in the 2 mg arm after one month of therapy. Plasma concentrations stayed the same at three and six months.
- The number of women that discontinued the study because of side effects related to the drug were 4, 5 and 12 in the placebo, 1 and 2 mg arms, respectively. Vasomotor symptoms were not reported as a reason for discontinuation.
- A validated questionnaire including 36 questions, and a five-graded Likert scale was used for self-assessment of symptoms. Only vasomotor symptoms (night and cold sweats and hot flushes) increased during the study period in the active arms, but not substantially: mean = 1.4 on a 10-point scale.

Nearly 50 percent of women receiving mammograms in the United States have dense breasts. While common and not considered abnormal, dense breasts make it harder to see tumors on mammograms and are an independent risk factor for developing breast cancer.

“We are thrilled with the topline results from the KARISMA-Endoxifen Phase 2 trial with (Z)-endoxifen and heartened by the idea that this work may someday lead us to a preventative approach to breast cancer,” said Dr. Steven Quay, Chief Executive Officer of Atossa Therapeutics. “Although further analysis of this study is required, the potential that 1 mg of (Z)-endoxifen may significantly reduce breast density as well as, if not better than currently available therapies, potentially without many of the intolerable side effects, is extremely encouraging and a significant step toward a solution for millions of women with dense breasts.”

Atossa and the Karolinska Institute expect to report detailed results from the KARISMA-Endoxifen trial at the San Antonio Breast Cancer Symposium in December, followed by full publication of the results in a peer-reviewed journal next year.

About (Z)-Endoxifen
(Z)-endoxifen is one of the most potent Selective Estrogen Receptor Modulator (SERM) for estrogen receptor inhibition and may cause estrogen receptor degradation. It has also been shown to have efficacy in the setting of patients with tumor resistance to other hormonal treatments. In addition to its potent anti-estrogen effects, (Z)-endoxifen has been shown to target PKCβ1, a known oncogenic protein, at clinically attainable blood concentrations. Finally, (Z)-endoxifen appears to deliver similar or even greater bone agonistic effects while resulting in little or no endometrial proliferative effects compared with standard treatments, like tamoxifen.

Atossa is developing a proprietary oral formulation of (Z)-endoxifen that is encapsulated to bypass the stomach, as acidic conditions in the stomach convert a significant proportion of (Z)-endoxifen to the inactive (E)-endoxifen. Atossa’s (Z)-endoxifen has been shown to be well tolerated in Phase 1 studies and in a small Phase 2 study of women with breast cancer. (Z)-endoxifen is currently being studied in five Phase 2 trials: one in healthy women with measurable breast density, one in women diagnosed with ductal carcinoma in situ, and three other studies including the EVANGELINE study and two I-SPY studies in women with ER+/HER2- breast cancer. Atossa’s (Z)-endoxifen is protected by four issued U.S. patents and numerous pending patent applications.

About Atossa Therapeutics
Atossa Therapeutics, Inc. is a clinical-stage biopharmaceutical company developing innovative medicines in areas of significant unmet medical need

in oncology with a focus on using (Z)-endoxifen to prevent and treat breast cancer. For more information, please visit www.atossatherapeutics.com.

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FORWARD LOOKING STATEMENTS

This press release contains certain information that may constitute forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. We may identify these forward-looking statements by the use of words such as “expect,” “potential,” “continue,” “may,” “will,” “should,” “could,” “would,” “seek,” “intend,” “plan,” “estimate,” “anticipate,” “believe,” “design,” “predict,” “future,” or other comparable words. All statements made in this press release that are not statements of historical fact, including statements regarding data related to the (Z)-endoxifen program, the potential of (Z)-endoxifen as a breast cancer prevention and treatment agent, the expected timing of data and related publications, and the potential milestones and growth opportunities for the Company, are forward-looking statements. Forward-looking statements in this press release are subject to risks and uncertainties that may cause actual results, outcomes, or the timing of actual results or outcomes, to differ materially from those projected or anticipated, including risks and uncertainties associated with: macroeconomic conditions and increasing geopolitical instability; the expected timing of releasing data; any variation between interim and final clinical results; actions and inactions by the FDA and foreign regulatory bodies; the outcome or timing of regulatory approvals needed by Atossa, including those needed to continue our planned (Z)-endoxifen trials; our ability to satisfy regulatory requirements; our ability to remain compliant with the continued listing requirements of the Nasdaq Stock Market; our ability to successfully develop and commercialize new therapeutics; the success, costs and timing of our development activities, including our ability to successfully initiate or complete our clinical trials, including our (Z)-endoxifen trials; our anticipated rate of patient enrollment; our ability to contract with third-parties and their ability to perform adequately; our estimates on the size and characteristics of our potential markets; our ability to successfully defend litigation and other similar complaints and to establish and maintain intellectual property rights covering our products; whether we can successfully complete our clinical trial of oral (Z)-endoxifen in women with mammographic breast density and our trials of (Z)-endoxifen in women with breast cancer, and whether the studies will meet their objectives; our expectations as to future financial performance, expense levels and capital sources, including our ability to raise capital; our ability to attract and retain key personnel; our anticipated working capital needs and expectations around the sufficiency of our cash reserves; and other risks and uncertainties detailed from time to time in Atossa’s filings with the Securities and Exchange Commission, including without limitation its Annual Reports on Form 10-K and Quarterly Reports on 10-Q. Forward-looking statements are presented as of the date of this press release. Except as required by law, we do not intend to update any forward-looking statements, whether as a result of new information, future events or circumstances or otherwise.