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Threshold Pharmaceuticals and National Cancer Institute to Collaborate on Drug Candidate TH-3424

-- Preclinical studies will explore the effects of TH-3424 against T-cell acute lymphoblastic leukemia cancer cell lines with high AKR1C3 expression --

SOUTH SAN FRANCISCO, Calif., Dec. 19, 2016 (GLOBE NEWSWIRE) -- Threshold Pharmaceuticals, Inc. (NASDAQ:THLD), a clinical-stage biopharmaceutical company developing novel therapies for cancer, today announced that it has entered into a collaboration with the National Cancer Institute (NCI), part of the National Institutes of Health (NIH), to study TH-3424, the company's new drug candidate for the treatment of cancer. The collaboration will explore the effects of TH-3424 against T-cell acute lymphoblastic leukemia (T-ALL) xenograft cell lines with high AKR1C3 expression. The studies will be conducted through the NCI-funded Pediatric Preclinical Testing Consortium (PPTC). Under this collaboration, Threshold will supply TH-3424, and the NCI will fund the studies that will be conducted at the PPTC leukemia research program led by Professor Richard Lock of Children's Cancer Institute (Sydney, Australia).

TH-3424 is a novel, small-molecule compound invented at Threshold with potentially broad anticancer properties. TH-3424 is activated by the enzyme AKR1C3, which is over-expressed in a number of different cancers, to release a cytotoxic agent directly to the tumor. Preclinical results showed that TH-3424 is effective in a variety of human xenograft models of cancer, as initially presented at the American Association for Cancer Research Annual Meeting in April 2016.

"TH-3424 is designed to be activated by AKR1C3 inside tumor cells and spare healthy tissue," said Barry Selick, Ph.D., CEO of Threshold Pharmaceuticals. "Evaluating this compound in collaboration with the NCI enables us to expand the scope of our investigations to better inform our strategy for potential future clinical studies for this molecule."

About TH-3424
TH-3424 is a small-molecule drug candidate being evaluated for the potential treatment of hepatocellular cancer (HCC), castrate resistant prostate cancer (CRPC), T-cell acute lymphoblastic leukemias (T-ALL), and other cancers expressing high levels of aldo-keto reductase family 1 member C3 (AKR1C3). Tumors overexpressing AKR1C3 can be resistant to radiation therapy and chemotherapy and immunotherapy. TH-3424 is a prodrug that selectively releases a potent DNA cross-linking agent in the presence of AKR1C3. Investigational New Drug (IND)-enabling toxicology studies are being done in collaboration with Ascenta Pharmaceuticals, Ltd.

About Threshold Pharmaceuticals
Threshold is a clinical-stage biopharmaceutical company focused on the development of drugs and diagnostic agents targeting the tumor microenvironment of solid tumors and hematologic malignancies. This approach offers broad potential to treat a variety of cancers. By selectively targeting tumor cells, we are building a pipeline of drugs that hold promise to be more effective and less toxic to healthy tissues than conventional anticancer drugs. For additional information, please visit the Company's website.

About the Pediatric Preclinical Testing Consortium (PPTC)
The NCI-supported Pediatric Preclinical Testing Consortium (PPTC) is a program to systematically evaluate novel agents against genomically characterized childhood cancer such as solid tumor and leukemia in vivo models. The primary goal of the NCI PPTC is to develop high quality preclinical data to help pediatric oncology researchers identify new agents that will show significant activity when clinically evaluated against selected childhood cancers. By supporting a more reliable agent prioritization process, the PPTC contributes to the goal of accelerating the discovery of more effective treatments for children with cancer. The NCI PPTC is similar to and builds upon ten years of experience with the NCI supported Pediatric Preclinical Testing Program (PPTP), which collaborated with more than 50 pharmaceutical companies to test novel agents against the program's pediatric preclinical models. Information about the NCI PPTC is available at http://www.ncipptc.org/.

Forward-Looking Statements
Except for statements of historical fact, the statements in this press release are forward-looking statements, including all statements regarding the therapeutic potential of TH-3424; anticipated development activities related to TH-3424, and the anticipated timing thereof. These statements involve risks and uncertainties that can cause actual results to differ materially from those in such forward-looking statements. Potential risks and uncertainties include, but are not limited to: the difficulty and uncertainty of pharmaceutical product development, including the risks that Threshold's toxicology studies of TH-3424 may not demonstrate sufficient safety to support an investigational new drug application and to further the development of

TH-3424 into the clinic; Threshold's need for and the availability of resources to develop TH-3424 and to support Threshold's operations, including the risks that Threshold's currently-available resources may be insufficient to further current development plans for TH-3424 and that Threshold will otherwise need to raise substantial additional capital in order to advance the clinical development of TH-3424; the risks that Threshold could determine to abandon the development of TH-3424 as a result of inadequate resources, negative or inconclusive toxicology study results. Further information regarding these and other risks is included under the heading "Risk Factors" in Threshold's Quarterly Report on Form 10-Q, which has been filed with the Securities and Exchange Commission on November 7, 2016 and is available from the SEC's website (www.sec.gov) and on our website (www.thresholdpharm.com) under the heading "Investors". We undertake no duty to update any forward-looking statement made in this news release.

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