April 23, 2026

Tonix Pharmaceuticals Presents Updates on Preclinical Immuno-Oncology Programs at the American Association for Cancer Research (AACR) Annual Meeting 2026

TNX-1700 (TFF2-albumin fusion protein) reversed aging-associated gastric inflammation and significantly attenuated tumor progression in aged gastric microenvironment in preclinical models

TNX-1700 exhibited dose-independent, linear pharmacokinetics in animals

TNX-4700 (human anti-BTLA monoclonal antibody) demonstrated potent, high-affinity binding and functional antagonism

BERKELEY HEIGHTS, N.J., April 23, 2026 (GLOBE NEWSWIRE) -- Tonix Pharmaceuticals Holding Corp. (Nasdaq: TNXP) ("Tonix" or the "Company"), a fully integrated, commercial biotechnology company, today announced an oral presentation and two poster presentations on its preclinical immuno-oncology portfolio at the American Association for Cancer Research (AACR) Annual Meeting 2026, held April 17-22, 2026, in San Diego, California.

"We are pleased to report encouraging preclinical data on our TFF2-albumin fusion protein (TNX-1700) and our anti-BTLA monoclonal antibody (mAb) (TNX-4700) at AACR," said Bruce Daugherty, PhD, MBA, Executive Vice President of Research at Tonix Pharmaceuticals. "TNX-1700 and TNX-4700 are investigational immuno-oncology candidates in pre-clinical development. TNX-1700 is in development for the treatment of gastric and colorectal cancer in combination with PD-1 inhibitors. TNX-4700 is in development for the treatment of potentially several cancers since its ligand HVEM is expressed and/or upregulated in the tumor microenvironment and generally correlates with reduced overall survival."

Abstract #: 6822 Oral Presentation: "TFF2 Deficiency Amplifies IL-1β–Driven Inflammation and Promotes Aging-Associated Gastric Tumor Progression"

- Presenting author: Shuang Li, MD, PhD, Postdoctoral Research Scientist in the Timothy C. Wang, MD, Laboratory at the Herbert Irving Comprehensive Cancer Center, Columbia University Medical Center

Aging is a major risk factor for gastric cancer, but the underlying mechanisms remain poorly

defined. The stomach undergoes profound epithelial and immune remodeling during aging. TFF2 is a mucosal protective factor implicated in epithelial repair and immune regulation. However, whether TFF2 regulates age-associated inflammation and tumor progression remains unknown.

TFF2-expressing epithelial cells were reduced in the stomachs of aged mice compared to young mice, with corresponding reductions in tissue and circulating TFF2 levels. Decline of TFF2 led to elevated IL-1β and promoted gastric inflammaging. The murine version of TNX-1700 (mTNX-1700 or TFF2-MSA) treatment reversed aging-associated inflammation. The aged stomach exhibited increased susceptibility to tumor progression. Myeloid-derived stem cells (MDSCs) accumulated and overexpressed IL-1β, interacting with IL-1R1^{+} cancer associated fibroblasts (CAFs). mTNX-1700 attenuated tumor progression in the aged gastric microenvironment.

Poster Presentation #7940: "Pharmacokinetics of TNX-1700 in Non-Human Primates and Human FcRn/Serum Albumin Transgenic Mice"

- Presenting author: Bruce Daugherty, PhD, MBA, Executive Vice President of Research, Tonix

TNX-1700 was evaluated in double-transgenic mice expressing human FcRn and human serum albumin (HSA) and in non-human primates. All animals survived without clinical signs or greater than 10% body-weight loss. TNX-1700 exhibited dose-independent, linear pharmacokinetics, with comparable pharmacokinetic profiles and exposure observed across species and doses. TNX-1700 substantially extends the half-life of TFF2 and achieves durable systemic exposure, supporting its potential as a therapeutic candidate for gastric cancer.

Poster Presentation #6550: *In Vitro* Characterization of Fully Human Antagonistic Anti-BTLA Monoclonal Antibodies

- Presenting author: Bruce Daugherty, PhD, MBA, Executive Vice President of Research, Tonix

B and T Lymphocyte Attenuator (BTLA) is a promising target in immuno-oncology since its ligand HVEM (herpesvirus entry mediator) is expressed in and upregulated in the tumor microenvironment of many cancers and generally correlates with reduced overall survival. Targeting BTLA offers opportunities for cancer immunotherapy and may demonstrate additive or synergistic activity when combined with other checkpoint antagonists, potentially overcoming resistance mechanisms and improving clinical outcomes.

Tonix studied several anti-BTLA mAbs, which demonstrated potent, high-affinity binding and functional antagonism of BTLA *in vitro*. Antagonists with reduced FcgRI binding and no binding to FcgRIIB may improve pharmacokinetics and confer a reduced risk of FcR-dependent adverse events, such as cytokine release syndrome or other immune-mediated toxicities.

Copies of the two poster presentations are available under the Scientific Presentations tab

on the Tonix website at www.tonixpharma.com.

About Trefoil Factor Family Member 2 (TFF2)
Human TFF2 is a secreted protein expressed in gastrointestinal mucosa where it functions to protect and repair the mucosal lining. In gastric cancer, TFF2 is epigenetically silenced, and TFF2 is suggested to be protective against cancer development through several mechanisms, including its activity as a partial agonist of CXCR4 that modulates myeloid cell trafficking to reduce accumulation of immunosuppressive neutrophils.

About TNX-1700
TNX-1700, a fusion protein of TFF2 and albumin, is in preclinical and pre-Investigational New Drug (IND) stage of development as a treatment of gastric and colorectal cancer in combination with PD-1 blockade.[1] The Company in-licensed TFF2 technology from Columbia University. TNX-1700 is an immunotherapy being developed to treat gastric and colorectal cancers in combination with PD-1 blockers. Results of preclinical testing demonstrated that a mouse version of TNX-1700 was able to evoke an increase in anti-tumor immunity in combination with anti-PD-1 in several mouse models of gastric cancer by reducing immunosuppressive neutrophils and activating anti-tumoral CD8+ T cell responses. TNX-1700 administered as both monotherapy and in combination with anti-PD-1 dramatically reduced metastasis and increased survival in these models; these findings were recently published.[1] TNX-1700 addresses a central mechanism of therapeutic resistance to anti-PD-1 therapy in gastric cancer by targeting the CXCR4-driven myeloid axis to normalize cancer-induced myelopoiesis and reprogram the tumor microenvironment.

About BTLA
BTLA (B and T lymphocyte attenuator) is a protein on the surface of tumor infiltrating lymphocytes. Targeting BTLA is a promising target in immuno-oncology since its ligand HVEM is expressed and/or upregulated in the tumor microenvironment of many cancers including melanoma, non-small cell lung cancer, colorectal cancer, gastric cancer, glioblastoma, and prostate cancer and generally correlates with reduced overall survival. Targeting BTLA offers opportunities for cancer immunotherapy and may demonstrate additive or synergistic effects when combined with other checkpoint antagonists, potentially overcoming resistance mechanisms and improving clinical outcomes.

About TNX-4700
Tonix is developing TNX-4700 (anti-BTLA) mAb for immuno-oncology indications. The mAb technology was licensed from Curia.

Citations:

1. Qian J, et al. *Cancer Cell*. 2025. 43(8):1512-1529.e11.

Tonix Pharmaceuticals Holding Corp.
Tonix Pharmaceuticals* is a fully integrated, commercial-stage biotechnology company focused on central nervous system (CNS) and immunology treatments in areas of high unmet medical need. TONMYA® (cyclobenzaprine HCl sublingual tablets 2.8 mg), is the first new treatment for fibromyalgia in adults in more than 15 years. Tonix's CNS commercial infrastructure supports its marketed products, including its acute migraine products, Zembrace® Symtouch® (sumatriptan injection 3 mg) and Tosymra® (sumatriptan nasal

spray 10 mg). Tonix is investigating TONMYA® in Phase 2 clinical trials to evaluate its potential in major depressive disorder and acute stress disorder/acute stress reaction. Tonix is also advancing a pipeline of immunology programs, including TNX-4800, a Phase 2 ready long-acting human anti-*Borrelia* OspA monoclonal antibody (mAb) for the prevention of Lyme disease in the U.S., and TNX-1500, a Phase 2 ready third-generation CD40 ligand inhibitor for the prevention of kidney transplant rejection. In addition, the Company is progressing TNX-2900 (intranasal potentiated oxytocin), which is Phase 2 ready for the treatment of Prader-Willi syndrome, a rare disease. To learn more, visit www.tonixpharma.com and follow the Company on LinkedIn and X.

**Tonix's product development candidates are investigational new drugs or biologics; their efficacy and safety have not been established and have not been approved for any indication.*

Forward Looking Statements

Certain statements in this press release are forward-looking within the meaning of the Private Securities Litigation Reform Act of 1995 including those relating to the completion of the offering, the satisfaction of customary closing conditions, the intended use of proceeds from the offering and other statements that are predictive in nature. These statements may be identified by the use of forward-looking words such as "anticipate," "believe," "forecast," "estimate," "expect," and "intend," among others. There are a number of factors that could cause actual events to differ materially from those indicated by such forward-looking statements. These factors include, but are not limited to, risks related to the failure to successfully launch and commercialize TONMYA® and any of our approved products; risks related to the failure to obtain FDA clearances or approvals and noncompliance with FDA regulations; risks related to the timing and progress of clinical development of our product candidates; our need for additional financing; uncertainties of patent protection and litigation; uncertainties of government or third party payor reimbursement; limited research and development efforts and dependence upon third parties; and substantial competition. As with any pharmaceutical under development, there are significant risks in the development, regulatory approval and commercialization of new products. Tonix does not undertake an obligation to update or revise any forward-looking statement. Investors should read the risk factors set in the Company's Annual Report on Form 10-K for the year ended December 31, 2025, as filed with the SEC on March 12, 2026, and periodic reports filed with the SEC on or after the date thereof. All of Tonix's forward-looking statements are expressly qualified by all such risk factors and other cautionary statements. The information set forth herein speaks only as of the date thereof.

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