



TransCode Therapeutics Reports Successful Treatment of Preclinical Melanoma Tumors with its Immunotherapy Candidate, TTX-RIGA

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Study showed a 70% Inhibition of Recurrent Tumor Growth

BOSTON, Oct. 16, 2023 (GLOBE NEWSWIRE) -- TransCode Therapeutics, Inc. (Nasdaq: RNAZ), an RNA oncology company committed to more effectively treating cancer using RNA therapeutics, today reported successful treatment of preclinical melanoma tumors using its immunotherapy candidate, TTX-RIGA. The study showed a significant inhibition of tumor growth.

TTX-RIGA, an innovative immunotherapeutic candidate built around TransCode's proprietary TTX delivery platform is designed to activate the immune system against tumor cells potentially resulting in effective treatment of multiple primary, metastatic, and recurrent cancers. TTX-RIGA is designed to work by binding to an intracellular receptor called RIG-I (retinoic acid-inducible gene I). TransCode believes this could result in targeted activation of innate immunity in the tumor microenvironment. Recent developments in the use of pattern recognition receptors (PRRs), such as RIG-I, aim to harness the innate power of the immune system to treat cancer. TransCode believes that understanding how to recruit PRRs, such as RIG-I, in a tumor-selective manner is critical for clinical applications.

In a mouse model of melanoma, systemic injection of TTX-RIGA demonstrated that the therapeutic candidate was effective in reducing primary tumor growth. Remarkably, it also elicited an immune response against secondary recurrent tumors, inhibiting their growth by 70%. This stands in contrast to intratumorally-administered standard RIG-I activators, which have demonstrated efficacy confined to the primary tumor. TransCode's approach is designed to achieve persistent cell-mediated immunity by targeted activation of innate immunity in cancer cells within the tumor microenvironment. TransCode believes that its approach helps establish RIG-I as a clinically relevant target in oncology for a variety of solid tumors including melanoma, glioblastoma multiforme (GBM), pancreatic, colorectal and breast cancer, and especially tumors that are prone to recurrence after initial treatment.

"The strategy we are employing with TTX-RIGA moves us closer to making this immunotherapeutic approach clinically relevant in oncology because it achieves targeted activation of innate immunity in the tumor microenvironment in the context of systemic agonist injection," commented [Zdravka Medarova, PhD](#), co-founder and CTO of TransCode. "As with prior studies, we believe the data from this animal study further support advancement of TTX-RIGA into clinical studies. The opportunity for systemic, yet tumor cell-selective, activation of innate immunity using our therapeutic design could represent an important step towards effective application of similar immunotherapeutic mechanisms for cancer therapy in the clinical setting."

Recent developments in the use of pattern recognition receptors (PRRs) aim to harness the innate power of the immune system for cancer therapy. TransCode seeks to address this challenge by developing a strategy for tumor-selective activation of an immune response specific to cancer cells using systemic administration with its proprietary nanoparticle delivery system, TTX. TransCode anticipates that immune activation will not be triggered in healthy tissues that do not express the target, but rather will be selectively activated only in tumors and metastases that do express the target. Similar competitive immunotherapeutics have been shown to induce complete tumor regressions in animals and have triggered immunity against the tumor. However, those therapies are often administered directly into the tumor to avoid the toxicity resulting from activation of an adverse immune response against healthy tissues. Administration directly into the tumor has not proven clinically effective due to limited access to the tumor cells, especially in the context of disseminated metastatic cancer.

"We believe that demonstrating successful in vivo results with TTX-RIGA is an important step in the preclinical development process and further de-risks our pipeline that includes multiple RNA approaches including RNAi, PRR, mRNA vaccines and gene editing with CRISPR, all of which utilize our proprietary delivery platform," said [Michael Dudley](#), co-founder and CEO of TransCode.

About TransCode Therapeutics

TransCode is an RNA oncology company created on the belief that cancer can be more effectively treated using RNA therapeutics. Using its iron oxide nanoparticle delivery platform, the Company has created a portfolio of drug candidates designed to target a variety of tumor types with the objective of significantly improving patient outcomes. The Company's lead therapeutic candidate, TTX-MC138, is focused on treating metastatic cancer, which is believed to cause approximately 90% of all cancer deaths totaling over nine million per year worldwide. The Company believes that TTX-MC138 has the potential to dramatically improve clinical outcomes in a range of cancers, including breast, pancreatic, ovarian and colon cancer, glioblastomas and others. Another of the Company's drug candidates, TTX-siPDL1, focuses on treating tumors by targeting a protein called Programmed death-ligand 1 (PD-L1). TransCode also has three cancer-agnostic programs: TTX-RIGA, an RNA-based agonist of the retinoic acid-inducible gene I designed to drive an immune response in the tumor microenvironment; TTX-CRISPR, a CRISPR/Cas9-based therapy platform for the repair or elimination of cancer-causing genes inside tumor cells; and TTX-mRNA, an mRNA-based platform for the development of cancer vaccines designed to activate cytotoxic immune responses against tumor cells.

Forward-Looking Statements

This release contains "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995, including, without limitation, statements concerning the results of preclinical studies of TTX-RIGA in melanoma and other tumor types, statements concerning expected clinical results of TransCode's therapeutic candidates, statements concerning the results of RNA research, statements concerning the potential for treating cancer with RNA therapeutics, statements concerning the timing and outcome of expected regulatory filings and clinical trials, including the first-in-human clinical trial of TTX-MC138, and whether this study will demonstrate proof-of-mechanism, and statements concerning TransCode's portfolio of drug candidates and TTX technology platform generally. Of note, TransCode has identified conditions and events that raise substantial doubt about its ability to continue operations in the near-term. If the company is unable to raise additional capital to fund its operations, it will likely need to consider cost reduction strategies, which may include, among others, amending, delaying, limiting, reducing, or terminating its development

programs, and it may need to seek an in-court or out-of-court restructuring of its liabilities. Any forward-looking statements in this press release are based on management's current expectations of future events and are subject to a number of risks and uncertainties that could cause actual results to differ materially and adversely from those set forth in or implied by such forward-looking statements. These risks and uncertainties include, but are not limited to: the risk associated with drug discovery and development; the risk that the results of our planned clinical trials will not be consistent with our pre-clinical studies or expectations; risks associated with the timing and outcome of TransCode's planned regulatory submissions; risks associated with TransCode's planned clinical trials for its product candidates; risks associated with obtaining, maintaining and protecting intellectual property; risks associated with TransCode's ability to enforce its patents against infringers and defend its patent portfolio against challenges from third parties; the risk of competition from other companies developing products for similar uses; risks associated with TransCode's financial condition and its need to obtain additional funding to support its business activities, including TransCode's ability to continue as a going concern; risks associated with TransCode's dependence on third parties; and risks associated with the COVID-19 coronavirus. For a discussion of these and other risks and uncertainties, and other important factors, any of which could cause TransCode's actual results to differ from those contained in or implied by the forward-looking statements, see the section entitled "Risk Factors" in TransCode's Annual Report on Form 10-K for the year ended December 31, 2022, as well as discussions of potential risks, uncertainties and other important factors in any subsequent TransCode filings with the Securities and Exchange Commission. All information in this press release is as of the date of the release; TransCode undertakes no duty to update this information unless required by law.

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