



## TransCode Therapeutics and BRAIN Biotech join forces to develop a CRISPR-derived technology platform for cancer treatment

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BOSTON, Feb. 22, 2023 (GLOBE NEWSWIRE) -- TransCode Therapeutics, Inc. (Nasdaq: RNAZ), the RNA oncology company committed to more effectively treating cancer using RNA therapeutics, today announced the signing of a non-binding letter of intent and a joint research and development agreement (JDA) with industrial biotechnology and genome editing expert, BRAIN Biotech AG. The objective of the JDA is to co-develop a platform technology that combines a Class 2 CRISPR nuclease, the cell-killing G-dase E, developed by BRAIN Biotech's Akribion Genomics unit with TransCode's TTX nucleic acid delivery platform for the treatment of cancer.

TransCode's proprietary TTX platform is designed to enable systemic delivery of targeted nucleic acid-based therapeutics to tumors and metastases. Akribion Genomics' proprietary nuclease is designed to seek out selective genomic characteristics based on the existence of specific RNA biomarkers within target cells. Combining these technologies could unlock the potential of CRISPR-like cell targeting approaches for the treatment of cancer.

"Specific depletion of cancer cells based on RNA biomarkers is a novel and powerful approach," stated Dirk Sombroek, PhD, member of the Akribion Genomics team of BRAIN Biotech AG. "The partnership with Transcode and a joint development could unleash the potential of our proprietary nucleases for therapeutic applications." Lukas Linnig, lead of Akribion Genomics activities at BRAIN Biotech AG, emphasized: "Our ultimate goal is to develop the combined technologies into a technology platform that provides a basis for the development of drugs to treat cancer. This partnership with TransCode is therefore an important step on our challenging path to enter the field of cancer therapeutics with a new class of cancer treatment."

"Cell targeting technology based on genomic characteristics holds tremendous potential for the treatment of cancer. However, to fulfill the promise of a Class 2 CRISPR toolbox in oncology, it is critical to achieve highly specific and targeted delivery to tumor cells. This capability relies on having a safe and effective delivery vehicle, such as TransCode's TTX is expected to represent, and a very precise cell-depletion tool, such as BRAIN's G-dase E nucleases is believed to be," commented [Zdravka Medarova, PhD](#), Co-founder and CTO of TransCode. "Combining these technologies could enable the development of further CRISPR-derived RNA biomarker targeting drugs effective against previously undruggable but highly impactful therapeutic targets in cancer."

"This partnership with BRAIN Biotech represents a significant milestone for TransCode because it further expands our broad pipeline to include cancer therapeutic candidates that rely not only on RNA interference, antisense technology, immune stimulation through pattern recognition receptors, or mRNA delivery, but also on CRISPR-derived genomic targeting. The partnership has the potential to enable a functionally unique tool to fight cancer because unlike our other therapeutic candidates, it does not rely on inhibition or enrichment of cancer-relevant genetic targets but, instead, is designed to specifically kill a cell with a critical pathway dysfunction," commented [Michael Dudley](#), Co-founder, President and CEO of TransCode. Dudley added, "The timing of this partnership is ideal, given that we are in the process of initiating a first-in-human clinical trial aimed at demonstrating TTX's capability of targeting clinical metastases."

### About TransCode Therapeutics

TransCode is an RNA oncology company created on the belief that cancer can be effectively treated using RNA therapeutics. The Company has created a platform 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 produce regression without recurrence in a range of cancers, including breast, pancreatic, ovarian and colon cancer, glioblastomas and others. Two of the Company's other drug candidates, TTX-siPDL1 and TTX-siLIN28B, focus on treating tumors by targeting PD-L1 and LIN28B, respectively. TransCode also has three cancer-agnostic programs: TTX-RIGA, an RNA-based agonist of the retinoic acid-inducible gene I, or RIG-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.

### About BRAIN Biotech

BRAIN Biotech AG is a leading European specialist in industrial biotechnology with a focus on nutrition, health and the environment. As a technology and solution provider, the company supports the biologization of industry with biobased products and processes. From contract research and development with industrial partners to the development of own disruptive incubator projects and customized enzyme products, BRAIN's broad, innovative biotech know-how and its agile teams are the key to its success.

BRAIN Biotech AG is the parent company of the international BRAIN Group, which distributes B2B specialty products, including enzymes and bioactive natural products. The BRAIN Group has its own fermentation or production facilities in continental Europe, the UK and the USA, which, together with the associated biotechnological production know-how, complete the value chain within the Group.

As a participant in the United Nations Global Compact, BRAIN Biotech AG is committed to aligning its strategies and activities with universal principles on human rights, labor, the environment and anti-corruption, and to actively promote common social goals. BRAIN Biotech's products and services directly target at least five of the UN SDGs.

Since its IPO in 2016, BRAIN Biotech AG has been listed in the Prime Standard of the Frankfurt Stock Exchange (ISIN DE0005203947 / WKN 520394).

## Forward-Looking Statements

This release contains “forward-looking statements” applicable to TransCode within the meaning of the Private Securities Litigation Reform Act of 1995, including, without limitation, statements concerning the signing of a joint development effort with BRAIN Biotech AG, statements concerning combining technologies into a technology platform as a basis for development of drugs to treat cancer, statements concerning the development and commercialization of any combined technologies, statements concerning the effectiveness of either company’s technologies or those technologies combined, 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 or CRISPR nucleases, statements concerning the timing and outcome of expected regulatory filings and clinical trials, including TransCode’s planned first-in-human study of TTX-MC138, statements concerning the timing and outcome of studies conducted by TransCode on its own or with others, including whether the joint study will demonstrate proof-of-mechanism, and statements concerning TransCode’s development programs and TTX technology platform generally. Of note, a Phase 0 clinical trial is an exploratory study, conducted under an exploratory Investigational New Drug (eIND) application. Exploratory IND studies usually involve very limited human exposure to a therapeutic candidate to evaluate mechanism of action in order to inform potential clinical evaluation in future clinical studies, but otherwise have no therapeutic intent. 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, 2021, as well as discussions of potential risks, uncertainties and other important factors in any subsequent TransCode filings with the U.S. 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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