UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 8-K

CURRENT REPORT
Pursuant to Section 13 or 15(d)
of the Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): August 23, 2023

TRANSCODE THERAPEUTICS, INC.
(Exact name of registrant as specified in its charter)

Delaware	001-40363	81-1065054
(State or other jurisdiction of incorporation)	(Commission File Number)	(I.R.S. Employer Identification No.)

TransCode Therapeutics, Inc.
6 Liberty Square, #2382
Boston, Massachusetts 02109
(Address of principal executive offices, including zip code)

(857) 837-3099
(Registrant's telephone number, including area code)

Not Applicable
(Former Name or Former Address, if Changed Since Last Report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

☐ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

☐ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

☐ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

☐ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Securities registered or to be registered pursuant to Section 12(b) of the Act.

Title of each class	Trading symbol(s)	Name of each exchange on which registered
Common Stock, par value $0.0001 per share	**RNAZ**	**The Nasdaq Capital Market**

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§ 230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§ 240.12b-2 of this chapter).

Emerging growth company ☒

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Item 8.01 Other Events.

On August 23, 2023, Transcode Therapeutics, Inc. announced dosing of the first subject in its First-in-Human Phase 0 clinical trial. A copy of the press release is attached hereto as Exhibit 99.1 and incorporated herein by reference.

Item 9.01. Financial Statements and Exhibits.

(d) Exhibits

99.1	Press release of TransCode Therapeutics, Inc. dated August 23, 2023.
104	Cover Page Interactive Data File (embedded within the Inline XBRL document).

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

TransCode Therapeutics, Inc.

Date: August 24, 2023

By: /s/ Thomas A. Fitzgerald
Thomas A. Fitzgerald
Chief Financial Officer

Exhibit 99.1

TransCode Therapeutics Announces First Subject Dosed with Radiolabeled TTX-MC138 in First-In-Human Clinical Trial

August 23, 2023

Designed to demonstrate delivery of TTX-MC138 to metastatic lesions

BOSTON, Aug. 23, 2023 (GLOBE NEWSWIRE) -- TransCode Therapeutics, Inc. (NASDAQ: RNAZ), the RNA oncology company committed to more effectively treating cancer using RNA therapeutics, today announced the dosing of the first subject in its First-in-Human Phase 0 clinical trial. The Phase 0 trial is an open-label, single-center, microdose study intended to demonstrate delivery of the radio-labeled version of TransCode's lead therapeutic candidate, TTX-MC138, to radiographically-confirmed metastases in subjects with advanced solid tumors.

The subject received a single subtherapeutic dose of radiolabeled TTX-MC138 and appeared to tolerate the dosing well. Analysis and monitoring of data from this subject is ongoing including results of positron emission tomography-magnetic resonance imaging (PET-MRI), to determine uptake of TTX-MC138 to the subject's metastatic lesions. Enrollment of additional subjects is also currently underway.

TTX-MC138 is designed to inhibit the pro-metastatic RNA, microRNA-10b, described as the master regulator of metastasis in a number of advanced solid tumors. TransCode believes that TTX-MC138 could be used as a treatment for many of these cancers.

"We are pleased to have commenced our First-in-Human (FIH) clinical trial," said TransCode's Chief Executive Officer and co-founder, Michael Dudley. "The capability to deliver nucleic-acid based therapeutics to cancer represents a major turning point in the field of RNA because it opens up the possibility of developing an entire new class of drugs against most previously undruggable genetic targets. Overcoming this challenge could constitute an unprecedented step in unlocking therapeutic access to a range of cancers and beyond. Demonstrating successful delivery to cancer using TransCode's proprietary TTX delivery platform could also enable progress towards more personalized cancer therapy guided by genetic profiling."

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. In a preclinical murine model of triple-negative breast cancer (TNBC), treatment with TTX-MC138 eliminated pre-existing local metastases in 100% of treated animals representative of stage II/III metastatic cancer. In a more aggressive murine model representative of stage IV metastatic cancer, treatment with TTX-MC138 resulted in elimination of distant metastases in 65% of animals treated. In a murine model of pancreatic adenocarcinoma, administration of TTX-MC138 as monotherapy resulted in complete responses, manifested as regression without recurrence, in 40% of treated animals. In addition to murine models of cancer, TTX-MC138 was successfully delivered and demonstrated preliminary efficacy in spontaneous feline mammary carcinoma.

TransCode's Chief Technology Officer and co-founder, Dr. Zdravka Medarova, said, "TTX-MC138 is a first-in-class therapeutic candidate against cancer, not only because of its molecular mechanism of action as an inhibitor of a noncoding RNA, but also because of its novel relevance to metastatic disease. There is currently a lack of drugs in cancer therapy that specifically exploit features unique to drivers of metastatic disease. If successful, TTX-MC138 could help demonstrate the potential for treatments specific to metastatic progression offering new hope for advanced cancer subjects who often have limited options for long-term disease remission."

A Phase 0 clinical trial is an exploratory study conducted under an Investigational New Drug application. Up to 12 subjects may be enrolled in this clinical trial, each of which is intended to receive a single microdose of radiolabeled TTX-MC138 followed by PET-MRI. The trial is intended to quantify the amount of TTX-MC138 delivered to metastatic lesions and the pharmacokinetics of the therapeutic candidate in cancer subjects, but not to have a therapeutic effect. The trial could yield critical data regarding therapeutic dosing, timing, and potential safety that could inform later clinical trials, including a Phase 1 trial planned to commence in 2024.

About TransCode Therapeutics

TransCode is an RNA oncology company created on the belief that cancer can be more 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, 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. One of the Company's other drug candidates, TTX-siPDL1, is an siRNA-based modulator of programmed death-ligand 1. 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 timing and outcome of TransCode’s FIH clinical trial, statements concerning the timing and outcome of expected regulatory filings and other clinical trials, statements concerning whether this study will demonstrate proof-of-mechanism, statements concerning expected clinical results of TransCode’s therapeutic candidates generally, statements concerning the results of RNA research, statements concerning the potential for treating cancer with RNA therapeutics, 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: 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; the risk that the results of our planned clinical trials will not be consistent with our pre-clinical studies or expectations; the risk that the timing or outcome of the Phase 0 clinical trial will not meet TransCode’s expectations; the risk associated with drug discovery and development; 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 dependence on third parties; and risks associated with the COVID-19 coronavirus and other unexpected events. 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.

For more information, please contact:

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