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 Act of 1934

Date of Report (Date of earliest event reported): January 10, 2022

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

Delaware	**001-38541**	**81-0724163**
(State or other jurisdiction of incorporation)	**(Commission File Number)**	**(I.R.S. Employer Identification No.)**

100 Technology Square **Cambridge, Massachusetts**	**02139**
(Address of principal executive offices)	**(Zip Code)**

Registrant's telephone number, including area code: (857) 242-0170

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 pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, $0.001 Par Value	**MGTA**	**The Nasdaq Global 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 2.02 Results of Operations and Financial Condition.

The following information and Exhibit 99.1 attached hereto shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, or otherwise subject to the liabilities of that section, nor shall it be deemed incorporated by reference in any filing under the Securities Act of 1933, as amended, except as expressly set forth by specific reference in such filing.

On January 10, 2022, Magenta Therapeutics, Inc. issued a press release providing a business update including highlights of recent progress across several programs and platforms, milestone expectations for fiscal year 2022, preliminary unaudited financial results for the full year ended December 31, 2021 and projected cash runway. The full text of the press release is furnished as Exhibit 99.1 to this Current Report on Form 8-K.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits:

The following exhibit relating to Item 2.02 shall be deemed furnished, and not filed:

99.1	Press Release dated January 10, 2022.
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)

SIGNATURES

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.

MAGENTA THERAPEUTICS, INC.

Date: January 10, 2022
By: /s/ Stephen Mahoney
Title: Chief Financial and Operating Officer

Exhibit 99.1

Magenta Therapeutics Highlights Recent Pipeline Progress and Milestone Expectations for 2022

-- MGTA-117 Phase 1/2 clinical trial is open for enrollment for patients with relapsed/refractory acute myeloid leukemia and myelodysplastic syndromes; clinical data expected in 2022 –-

-- CD45 antibody drug conjugate is Magenta's second conditioning program; dose range toxicology results expected in second half of 2022 --

-- MGTA-145 stem cell mobilization program focused on dose and administration optimization and sickle cell disease clinical trial with initial data expected in second half of 2022 –-

-- Focused program spending allows for extended cash runway; ended 2021 with approximately $162 million in cash reserves with expectation to fund operating plan into Q4 2023 --

CAMBRIDGE, Mass.--(BUSINESS WIRE) -- Jan. 10, 2022—**Magenta Therapeutics** (NASDAQ: MGTA), a clinical-stage biotechnology company developing novel medicines designed to bring the curative power of stem cell transplant to more patients, today highlighted progress across its portfolio of targeted conditioning and stem cell mobilization programs and set out its milestone expectations for both clinical and preclinical data in 2022. These updates will also be discussed during a webcast presentation at the 40th Annual J.P. Morgan Healthcare Conference on Thursday, January 13 at 9:45 a.m. EST.

“2022 will be an important year for the Magenta portfolio” said Jason Gardner, D. Phil., President and Chief Executive Officer, Magenta Therapeutics. “We believe we will clinically demonstrate that MGTA-117 targets and binds selectively to CD117-expressing cells, potently depletes those cells and the product profile will be well-tolerated in our Phase 1/2 clinical study. We have developed biomarker assays that

we believe will provide early insights into the biologic activity of MGTA-117. We are also thrilled to introduce our second targeted conditioning program in the development pipeline, an antibody drug conjugate targeting CD45 which has the potential to deplete both stem cells and immune cells without chemotherapy. Finally, with our MGTA-145 program, we are focused on optimizing the collection yield of mobilized stem cells. We believe MGTA-145 can offer a faster and more reliable mobilization regimen for stem cell transplantation as well as *ex vivo* and *in vivo* gene therapies."

Targeted Conditioning

MGTA-117 Program:

***2022 Clinical Data from Phase 1/2 Clinical Trial: Evaluating Target Selectivity, Potency and Tolerability*.** The MGTA-117 Phase 1/2 clinical trial is open for enrollment. This dose escalation clinical trial will evaluate the safety, tolerability, pharmacokinetics and pharmacodynamics of MGTA-117 as a single dose in patients with relapsed/refractory Acute Myeloid Leukemia (AML) and Myelodysplasia-Excess Blasts (MDS-EB).

Specifically, dosing cohorts expected to enroll in 2022 will allow for evaluation of MGTA-117's ability to:

- selectively target CD117 as measured by receptor occupancy;
- potently deplete CD117-expressing cells such as stem cells, progenitors, and tumor cells; and
- rapidly clear from the body with a well-tolerated profile as determined by pharmacokinetic analysis and clinical chemistry tests, respectively.

Magenta's preclinical evidence supports the MGTA-117 target selectivity, potency and tolerability profile. In GLP toxicology studies, MGTA-117 potently depleted stem cells at a dose level where there were no drug-related findings in hepatic, reproductive, neurologic, cardiovascular, or respiratory organs.

Phase 1/2 Clinical Trial Design for MGTA-117. MGTA-117 will be assessed in patients with relapsed/refractory AML and MDS-EB in a multi-center, open-label, single-ascending-dose trial. Patients in the first cohort will receive 0.02 mg/kg administered intravenously (IV), and subsequent cohort doses will be determined in accordance with a modified Fibonacci sequence.

Magenta will assess data from each cohort and, after collection of adequate safety, pharmacokinetic and pharmacodynamic data, Magenta intends to engage with the U.S. Food and Drug Administration (FDA) to transition to the primary target population of patients eligible for stem cell transplantation. In addition, Magenta plans to explore MGTA-117 as a targeted conditioning agent for stem cell gene therapies.

CD45-Antibody Drug Conjugate Program:

Magenta has initiated investigational new drug application-enabling studies on its second targeted conditioning program, an antibody drug conjugate (ADC) targeting CD45. Due to the expression of CD45 on stem cells and immune cells, Magenta's CD45-ADC is designed to selectively target and deplete stem cells and lymphocytes, which could allow patients with blood cancers and autoimmune diseases to avoid use of chemotherapy prior to stem cell transplant. Magenta expects to have preclinical data from a dose ranging toxicology study in the second half of 2022.

Stem Cell Mobilization and Collection

MGTA-145 Dosing and Administration Optimization Clinical Trial. As previously disclosed, Magenta intends to initiate a dosing and administration optimization clinical trial with MGTA-145 in combination with plerixafor. Clinical data from a Phase 2 investigator-initiated clinical trial with 25 multiple myeloma patients showed that MGTA-145, in combination with plerixafor, mobilized a sufficient number of stem cells for transplantation in 88% of patients (22/25). In addition, all patients transplanted with cells mobilized by MGTA-145 plus plerixafor as of the

data cut-off date had successful engraftment (18/18 patients) with prolonged durability through the 100-day follow-up period (13/13 patients). The regimen was generally well-tolerated. Magenta believes there are specific opportunities to further improve cell collection yield by adjustments to the regimen dosing, and administration timing. Magenta expects to generate data from this healthy subjects clinical trial in the second half of 2022.

Sickle Cell Disease (SCD) – Stem Cell Mobilization Phase 2 Clinical Trial. Magenta is advancing trial initiation activities. The trial is designed to evaluate mobilization and collection of stem cells in adults and adolescents with SCD. Magenta and its clinical collaboration partner, bluebird bio, will each characterize the collected cells. Magenta plans to gene-modify the cells and transplant them into established preclinical models to evaluate graft quality and engraftment. Data from this clinical trial could provide proof-of-concept for MGTA-145, in combination with plerixafor, as a first-line mobilization regimen for patients with SCD and, more broadly, across other gene therapy applications. Magenta expects to generate data from this clinical trial in the second half of 2022.

Cash Guidance

With focused allocation of capital and resources on both clinical stage programs and CD45-ADC, Magenta now expects its cash reserves to fund its operating plan into the fourth quarter of 2023. Magenta ended 2021 with approximately $162 million of cash, cash equivalents, and marketable securities (unaudited).

About Magenta Therapeutics

Magenta Therapeutics is a clinical-stage biotechnology company developing medicines designed to bring the curative power of stem cell transplant to more patients with blood cancer, genetic diseases and autoimmune diseases. Magenta is combining leadership in stem cell biology and biotherapeutics development with clinical and regulatory expertise to revolutionize immune and blood reset to allow more patients to take advantage of the curative potential of stem cell transplant as well as potentially improve eligibility for future gene therapies.

Magenta is based in Cambridge, Mass. For more information, please visit **www.magentatx.com**.

Follow Magenta on Twitter: @magentatx.

Forward-Looking Statements

This press release may contain forward-looking statements within the meaning of The Private Securities Litigation Reform Act of 1995 and other federal securities laws, including express or implied statements regarding Magenta's future expectations, plans and prospects, including, without limitation, statements regarding expectations, plans and timing for preclinical activities, clinical trials and related results, the development of product candidates and advancement of preclinical and clinical programs, the potential benefits and expected performance of product candidates, projections regarding long-term growth, cash, cash equivalents and marketable securities, as well as other statements containing words such as "anticipate," "believe," "continue," "could," "designed," "endeavor," "estimate," "expect," "intend," "may," "might," "plan," "potential," "predict," "project," "seek," "should," "target," "will" or "would" and similar expressions that constitute forward-looking statements under the Private Securities Litigation Reform Act of 1995. The express or implied forward-looking statements included in this press release are only predictions and are subject to a number of risks, uncertainties and assumptions, including, without limitation: uncertainties inherent in preclinical and clinical studies and in the availability and timing of data from ongoing and planned clinical and preclinical studies; the ability to initiate, enroll, conduct or complete ongoing and planned preclinical and clinical studies; whether results from preclinical or earlier clinical studies will be predictive of the results of future studies; discussions with governmental agencies such as the FDA; the expected timing of submissions for regulatory approval to conduct or continue trials or to market products; whether Magenta's cash resources will be sufficient to fund Magenta's foreseeable and unforeseeable operating expenses and capital expenditure requirements; risks, uncertainties and assumptions regarding the impact of the continuing COVID-19 pandemic on Magenta's business, operations, strategy, goals and anticipated timelines, and other risks concerning Magenta's programs and

operations are described in additional detail in its Annual Report on Form 10-K filed on March 3, 2021, as updated by Magenta's most recent Quarterly Report on Form 10-Q, and its other filings made with the Securities and Exchange Commission from time to time. Although Magenta's forward-looking statements reflect the good faith judgment of its management, these statements are based only on facts and factors currently known by Magenta. As a result, you are cautioned not to rely on these forward-looking statements. Any forward-looking statement made in this press release speaks only as of the date on which it is made. Magenta undertakes no obligation to publicly update or revise any forward-looking statement, whether as a result of new information, future developments or otherwise.

Investor inquiries:

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