Beam Therapeutics Announces Portfolio Progress and Reports Third Quarter 2022 Financial Results

November 7, 2022

Patient Recruitment Underway in BEACON Clinical Trial of BEAM-101 for Treatment of Sickle Cell Disease as Part of Wave 1 Strategy Execution

IND-enabling Studies Underway for BEAM-301 for Treatment of GSDIa

BEAM-302 Nominated as Development Candidate for Treatment of Alpha-1 Antitrypsin Deficiency; Targeting Durable Gene Correction Designed to Address Both Lung and Liver Disease

New Data Highlighting Enhanced Conditioning Approach for Hematologic Transplant (ESCAPE) to be Presented at ASH

Ended Third Quarter 2022 with $1.1 Billion in Cash, Cash Equivalents and Marketable Securities

CAMBRIDGE, Mass., Nov. 07, 2022 (GLOBE NEWSWIRE) -- Beam Therapeutics Inc. (Nasdaq: BEAM), a biotechnology company developing precision genetic medicines through base editing, today provided portfolio updates and reported financial results for the third quarter, ended September 30, 2022.

"As pioneers in base editing, Beam has been at the forefront of advancing a broad pipeline across a range of therapeutic areas and delivery strategies, and today we report significant progress and updates in each of these areas," said John Evans, chief executive officer of Beam. "Our top priority is executing the BEACON trial for BEAM-101. Bringing a novel transplant-based medicine into clinical development in the U.S. has been a tremendous effort, and we are laser-focused on screening and site activation efforts to enroll our first sickle cell patient by year-end. We are also accelerating our overall BEAM-101 development program, where we see an opportunity to potentially seek regulatory approval on data generated from the BEACON trial. Given those priorities, we have elected not to file an IND in 2022 for BEAM-102. Instead, we will take the opportunity to streamline the BEACON trial while focusing the next phase of our investment in sickle cell disease on our Wave 2 programs for non-genotoxic conditioning, as well as our Wave 3 strategy for *in vivo* lipid nanoparticle delivery of base editors, continuing to leverage both HbF and Makassar editing strategies."

Evans added, "Beyond hematology, the Beam team has also executed on the rest of our ambitious goals for advancing and expanding our pipeline. In immune cell therapies, we have submitted our response to the FDA clinical hold for BEAM-201, and we continue our research toward a potential best-in-class platform for allogeneic cell therapies leveraging the strength of multiplex base editing, which may be the key to delivering deeper and more durable responses. In the liver portfolio, we have initiated IND-enabling studies for BEAM-301, to our knowledge the first gene editing program to target direct *in vivo* correction of a genetic mutation. Finally, we are very pleased to announce the selection of our second *in vivo* development candidate, BEAM-302, for alpha-1 antitrypsin deficiency (AATD). BEAM-302 is a first-in-kind program targeting direct *in vivo* DNA correction of the disease-causing E342K mutation in patients with severe AATD, which could address both the lung and liver manifestations of the disease with a potentially one-time treatment. I am so proud of the entire Beam team for advancing the science and medicine of base editing across such a diverse portfolio, and we are excited about the near-term opportunity to bring each of these potential medicines to patients."

Portfolio Updates & Anticipated Milestones
Ex Vivo Hematopoietic Stem Cell (HSC) Pipeline

- **Prioritization of BEAM-101 Clinical Execution:** Beam continues to focus on development of BEAM-101, which upregulates the expression of fetal hemoglobin (HbF), as the lead program in its Wave 1 sickle cell disease (SCD) strategy to bring this medicine to patients as quickly as possible. Beam has activated multiple U.S. clinical trial sites, which are now recruiting patients for its BEACON trial, an open-label, single-arm, multicenter, Phase 1/2 clinical trial evaluating the safety and efficacy of BEAM-101 in adult patients with severe SCD. Per the BEACON trial protocol, once the first patient is enrolled, they will undergo a transfusion and mobilization process for HSC retrieval. The cells are then edited, creating an autologous BEAM-101 drug product. Following the drug product manufacturing, the patient will receive pre-treatment conditioning using a standard-of-care chemotherapy regimen, after which the edited cells are transplanted back into the patient. Following successful engraftment, treatment of a second patient can proceed. Beam continues to expect enrollment of the first patient in the BEACON trial by the end of 2022.

  To accelerate development of BEAM-101, Beam is currently working to amend the BEACON trial protocol to enable clinical trial modifications designed to streamline and expedite patient enrollment and trial conduct based on the recent regulatory landscape in SCD trials. The company also plans to make investments required to finalize its commercial manufacturing process for BEAM-101.

- **Decision to Forgo BEAM-102 IND in 2022 and Optimize Program for Future SCD Waves:** Beam has continued efforts in its Wave 2 strategy, which is designed to enable an improved, reduced-toxicity conditioning regimen for patients undergoing HSC transplantation, as well as its Wave 3 strategy, which is focused on *in vivo* delivery of base editors directly to HSCs. In connection with these efforts, Beam will not submit an investigational new drug (IND) application for BEAM-102, its base editing program designed to treat SCD by directly editing the causative HbS point mutation to create

the naturally occurring normal human hemoglobin variant, HbG-Makassar, in 2022. Instead, the company plans to optimize its Makassar approach, alongside its HbF upregulation approach, as part of its future *ex vivo* and *in vivo* HSC candidates in Wave 2 and Wave 3 development, respectively.

- **Progress with Wave 2 Non-genotoxic Conditioning to be Reported at ASH:** Beam plans to present new data on its improved conditioning technologies at the American Society of Hematology (ASH) Annual Meeting in December. Beam has leveraged its base editing capabilities to develop a potentially non-genotoxic approach to SCD treatment that combines antibody-based conditioning with multiplex gene-edited HSCs called ESCAPE (Engineered Stem Cell Antibody Paired Evasion). ESCAPE-1 features the upregulation of fetal hemoglobin, the mechanism for BEAM-101, and ESCAPE-2 features HbG Makassar editing, the mechanism for BEAM-102.

Ex Vivo T Cell Pipeline

- **BEAM-201 IND Response Submitted to FDA:** BEAM-201 is a first-in-kind, potent and specific anti-CD7, multiplex-edited, allogeneic chimeric antigen receptor T cell (CAR-T) development candidate. Beam submitted an IND for BEAM-201 to the FDA in June 2022, and in July 2022, was notified that the IND was placed on clinical hold. Beam has submitted its response to the FDA and will provide an update on next steps, as available.

In Vivo LNP Liver-targeting Pipeline

- **IND-enabling Studies Initiated for BEAM-301:** BEAM-301 is designed to treat glycogen storage disease 1a (GSDIa), an autosomal recessive disorder caused by mutations in the G6PC gene that disrupt a key enzyme, glucose-6-phosphatase (G6Pase), critical for maintaining glucose homeostasis. Inhibition of G6Pase activity results in low fasting blood glucose levels that can result in seizures and be fatal. BEAM-301 is a liver-targeting lipid nanoparticle (LNP) formulation of base editing reagents designed to correct the R83C mutation, the most common disease-causing mutation of GSDIa.

- **BEAM-302 Named Development Candidate for Alpha-1 Antitrypsin Deficiency (AATD):** Beam has nominated its second *in vivo* development candidate, BEAM-302, which it plans to develop as a potential one-time treatment to genetically correct the E342K point mutation (PiZZ genotype), which is most commonly responsible for severe AATD. AATD is a rare, inherited genetic disorder that can cause early onset emphysema and liver disease.

    - Patients with severe AATD (PiZZ) have accumulation of a non-functional protein in the liver (toxic gain of function) that causes liver damage and a decrease in circulating alpha-1 antitrypsin (AAT) (toxic loss of function) that results in lung damage due to insufficient inhibition of neutrophil elastase. Augmentation therapy with plasma-purified AAT is currently utilized in patients with lung disease and may slow lung function decline, but definitive data on long-term clinical outcomes, such as quality of life, frequency of exacerbations or survival, are limited. There are no FDA-approved therapies that can simultaneously treat AATD-related lung and liver disease.
    - In mouse models of AATD, LNP delivery of BEAM-302 was capable of efficiently correcting the PiZ mutation at clinically relevant doses of <1 mg/kg. Optimization of both the guide and editor for BEAM-302 has resulted in a greater than two-fold improvement in editing efficiency compared with previously published precursor reagents.
    - The increased level of mutation correction achieved with BEAM-302 increased secretion of functional AAT protein to levels that could be therapeutically relevant for protection of lung function in patients with AATD.
    - Prior precursor editors and guides have also demonstrated a corresponding reduction of toxic liver aggregates, suggesting the first-in-class potential of BEAM-302 to treat both lung and liver manifestations of the disease.
    - Beam has initiated preparations for preclinical manufacturing and preclinical development of BEAM-302.

- **First *In Vivo* Data for Multiplex Base Editing Approach to Treat Chronic HBV Infection:** In September, Beam presented new preclinical data demonstrating the potential of the company's multiplex base editing approach to both reduce viral markers – including hepatitis B surface antigen (HBsAg) expression – and prevent viral rebound of hepatitis B virus (HBV) in *in vivo* models.

Third Quarter 2022 Financial Results

- **Cash Position:** Cash, cash equivalents and marketable securities were $1.1 billion as of September 30, 2022, as compared to $965.6 million as of December 31, 2021.
- **Research & Development (R&D) Expenses:** R&D expenses were $85.3 million for the third quarter of 2022, compared to $54.6 million for the third quarter of 2021.
- **General & Administrative (G&A) Expenses:** G&A expenses were $21.8 million for the third quarter of 2022, compared to $15.8 million for the third quarter of 2021.
- **Net Loss:** Net loss was $109.6 million for the third quarter of 2022, or $1.56 per share, compared to $28.1 million for the third quarter of 2021, or $0.42 per share.

About Beam Therapeutics
Beam Therapeutics (Nasdaq: BEAM) is a biotechnology company committed to establishing the leading, fully integrated platform for precision genetic medicines. To achieve this vision, Beam has assembled a platform that includes a suite of gene editing and delivery technologies and is in the process of building internal manufacturing capabilities. Beam's suite of gene editing technologies is anchored by base editing, a proprietary technology that is designed to enable precise, predictable and efficient single base changes, at targeted genomic sequences, without making double-stranded breaks in the DNA. This has the potential to enable a wide range of potential therapeutic editing strategies that Beam is using to advance a diversified portfolio of base editing programs. Beam is a values-driven organization committed to its people, cutting-edge science, and a vision of providing life-long cures to patients suffering from serious diseases.

Cautionary Note Regarding Forward-Looking Statements
This press release contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Investors are cautioned not to place undue reliance on these forward-looking statements, including, but not limited to, statements related to: our upcoming presentation at the ASH annual meeting; our plans, and anticipated timing, to advance our programs; our expectations for transitioning to a multi-program clinical stage company; the therapeutic applications and potential of our technology, including with respect to SCD and our conditioning regimens, GSDIa, AATD, HBV, and CAR-T cells; the expected timing of enrolling the first subject in our BEACON Phase 1/2 clinical trial of BEAM-101; the sufficiency of our capital resources to fund operating expenses and capital expenditure requirements; and our ability to develop life-long, curative, precision genetic medicines for patients through base editing. Each forward-looking statement is subject to important risks and uncertainties that could cause actual results to differ materially from those expressed or implied in such statement, including, without limitation, risks and uncertainties related to: our ability to develop, obtain regulatory approval for, and commercialize our product candidates, which may take longer or cost more than planned; our ability to raise additional funding, which may not be available; our ability to obtain, maintain and enforce patent and other intellectual property protection for our product candidates; the potential impact of the COVID-19 pandemic, including its impact on the global supply chain; the uncertainty that our product candidates will receive regulatory approval necessary to initiate human clinical studies; that preclinical testing of our product candidates and preliminary or interim data from preclinical studies and clinical trials may not be predictive of the results or success of ongoing or later clinical trials; that enrollment and initiation of our clinical trials may take longer than expected; that our product candidates may experience manufacturing or supply interruptions or failures; risks related to competitive products; and the other risks and uncertainties identified under the headings "Risk Factors Summary" and "Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2021, and in any subsequent filings with the Securities and Exchange Commission. These forward-looking statements speak only as of the date of this press release. Factors or events that could cause our actual results to differ may emerge from time to time, and it is not possible for us to predict all of them. We undertake no obligation to update any forward-looking statement, whether as a result of new information, future developments or otherwise, except as may be required by applicable law.

This press release contains hyperlinks to information that is not deemed to be incorporated by reference in this press release.

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Condensed Consolidated Balance Sheet Data (unaudited)
(in thousands)

	September 30, 2022	December 31, 2021
Cash, cash equivalents, and marketable securities	$ 1,094,554	$ 965,647
Total assets	1,350,250	1,474,453
Total liabilities	635,773	647,715
Total stockholders' equity	714,477	826,738

Condensed Consolidated Statement of Operations (unaudited)
(in thousands, except share and per share data)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
License and collaboration revenue	$ 15,799	$ 763	$ 40,883	$ 775
Operating expenses:				
Research and development	85,287	54,623	225,253	290,306
General and administrative	21,815	15,774	65,124	39,450
Total operating expenses	107,102	70,397	290,377	329,756
Loss from operations	(91,303)	(69,634)	(249,494)	(328,981)
Other income (expense):				
Change in fair value of derivative liabilities	(4,900)	35,800	20,900	(8,400)

Change in fair value of non-controlling equity investments	10,431	(4,892)	(1,378)	21,960
Change in fair value of contingent consideration liabilities	(875)	10,599	(543)	9,553
Interest and other income (expense), net	4,982	9	7,686	(63)
Total other income (expense)	9,638	41,516	26,665	23,050
Net loss before income taxes	(81,665)	(28,118)	(222,829)	(305,931)
Provision for income taxes	(2,410)	—	(2,410)	—
Loss from equity method investment	(25,500)	—	(25,500)	—
Net loss	$ (109,575)	$ (28,118)	$ (250,739)	$ (305,931)
Unrealized gain (loss) on marketable securities	(484)	(12)	(4,624)	28
Comprehensive loss	$ (110,059)	$ (28,130)	$ (255,363)	$ (305,903)
Net loss per common share, basic and diluted	$ (1.56)	$ (0.42)	$ (3.59)	$ (4.86)
Weighted-average common shares outstanding, basic and diluted	70,343,196	66,377,611	69,758,434	62,960,219