Caribou Biosciences Announces Dosing of First Patient in the CaMMouflage Phase 1 Trial of CB-011, an Allogeneic Anti-BCMA CAR-T Cell Therapy for the Treatment of Relapsed or Refractory Multiple Myeloma

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-- CB-011 is designed to improve antitumor activity by cloaking the allogeneic CAR-T cells from immune-mediated rejection --

-- CB-011 is Caribou's second program to enter the clinic from its off-the-shelf CAR-T cell therapy platform --

BERKELEY, Calif., March 29, 2023 (GLOBE NEWSWIRE) -- Caribou Biosciences, Inc. (Nasdaq: CRBU), a leading clinical-stage CRISPR genome-editing biopharmaceutical company, today announced the first patient has been dosed with CB-011 at dose level 1 ($50x10^6$ CAR-T cells) in the CaMMouflage Phase 1 trial for adults with relapsed or refractory multiple myeloma (r/r MM). CB-011 is an allogeneic anti-BCMA CAR-T cell therapy designed to improve antitumor activity by reducing T and natural killer (NK) cell-mediated rejection.

"We are excited to announce the first patient has been treated with CB-011 in the CaMMouflage Phase 1 trial for relapsed or refractory multiple myeloma," said Rachel Haurwitz, PhD, Caribou's president and chief executive officer. "Initiation of the CaMMouflage trial is the first step in evaluating the safety of CB-011 and assessing how our immune cloaking approach for CB-011 may improve the antitumor activity. We continue to be humbled by the patients, their families, and the physicians who are partnering with Caribou as we develop off-the-shelf CAR-T cell therapies that have the potential to address the needs of broad patient populations."

CB-011 is the first allogeneic CAR-T cell therapy, to Caribou's knowledge, with an immune cloaking approach that includes both removal of the endogenous beta-2 microglobulin (B2M) protein and insertion of a B2M–human-leukocyte-antigen-E–peptide (B2M–HLA-E) transgene. This strategy has the potential to improve the antitumor activity by blunting CAR-T cell rejection mediated by both the patient's T cells and NK cells.

"Approved therapies have demonstrated efficacy in patients with relapsed or refractory multiple myeloma, but challenges remain with patient access, tolerability, and treatment burden," said Sundar Jagannath, MD, professor of medicine and Mount Sinai endowed chair for multiple myeloma at Mount Sinai School of Medicine and director of the Multiple Myeloma Center of Excellence at Tisch Cancer Institute, Mount Sinai Hospital, New York. "There is a significant unmet need for an off-the-shelf CAR-T cell therapy as a readily available treatment option that does not require multiple rounds of treatment."

Caribou plans to continue to enroll additional patients at dose level 1 in the CaMMouflage trial and provide an update on the clearance of dose levels as appropriate.

About the CaMMouflage Trial
The CaMMouflage Phase 1 trial (NCT05722418) is an open-label, multicenter clinical trial designed to evaluate CB-011 in adults with relapsed or refractory multiple myeloma (r/r MM). Part A, a 3+3 dose escalation design, will evaluate the safety and tolerability of CB-011 at multiple dose levels and will be utilized to determine the maximum tolerated dose and/or the recommended Phase 2 dose. Part B is the dose expansion portion with the primary objective of determining tumor response after a single dose of CB-011. CaMMouflage will include patients who have had 3 or more prior lines of therapy and will exclude patients who have received a BCMA-targeted therapy within the last 3 months and/or any prior CAR-T cell therapy. For more information about the CaMMouflage trial (NCT05722418), please visit clinicaltrials.gov.

About Multiple Myeloma
As of 2022, multiple myeloma (MM) made up 18% of hematologic malignancies in the United States and 1.8% of all cancers. In 2022, there were an estimated 34,470 new cases in the United States and an estimated 12,640 deaths. Median age of diagnosis for MM is 69 years and the five-year survival in these patients is approximately 58%.

About Caribou's Novel Next-Generation CRISPR Platform
CRISPR genome editing uses easily designed, modular biological tools to make DNA changes in living cells. There are two basic components of Class 2 CRISPR systems: the nuclease protein that cuts DNA and the RNA molecule(s) that guide the nuclease to generate a site-specific, double-stranded break, leading to an edit at the targeted genomic site. CRISPR systems are capable of editing unintended genomic sites, known as off-target editing, which may lead to harmful effects on cellular function and phenotype. In response to this challenge, Caribou has developed CRISPR hybrid RNA-DNA guides (chRDNAs; pronounced "chardonnays") that direct substantially more precise genome editing compared to all-RNA guides. Caribou is deploying the power of its Cas12a chRDNA technology to carry out high efficiency multiple edits, including multiplex gene insertions, to develop CRISPR-edited therapies.

About Caribou Biosciences, Inc.
Caribou Biosciences is a clinical-stage CRISPR genome-editing biopharmaceutical company dedicated to developing transformative therapies for patients with devastating diseases. The company's genome-editing platform, including its proprietary Cas12a chRDNA technology, enables superior precision to develop cell therapies that are armored to potentially improve antitumor activity. Caribou is advancing a pipeline of off-the-shelf cell therapies from its CAR-T and CAR-NK platforms as readily available treatments for patients with hematologic malignancies and solid tumors.

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Forward-Looking Statements

This press release contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. These forward-looking statements include, without limitation, statements related to Caribou's strategy, plans, and objectives, and expectations regarding its clinical and preclinical development programs, including its expectations relating to the enrollment, status, and updates from its CaMMouflage Phase 1 clinical trial for CB-011. Management believes that these forward-looking statements are reasonable as and when made. However, such forward-looking statements are subject to risks and uncertainties, and actual results may differ materially from any future results expressed or implied by the forward-looking statements. Risks and uncertainties include, without limitation, risks inherent in the development of cell therapy products; uncertainties related to the initiation, cost, timing, progress, and results of Caribou's current and future research and development programs, preclinical studies, and clinical trials; and the risk that initial or interim clinical trial data will not ultimately be predictive of the safety and efficacy of Caribou's product candidates or that clinical outcomes may differ as more patient data becomes available; the risk that preclinical study results we observed will not be borne out in human patients; as well as other risk factors described from time to time in Caribou's filings with the Securities and Exchange Commission, including its Annual Report on Form 10-K for the year ended December 31, 2022 and subsequent filings. In light of the significant uncertainties in these forward-looking statements, you should not rely upon forward-looking statements as predictions of future events. Except as required by law, Caribou undertakes no obligation to update publicly any forward-looking statements for any reason.

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