Caribou Biosciences Announces Positive Initial Data for CB-010 Anti-CD19 Allogeneic CAR-T Cell Therapy

May 12, 2022

-- 100% ORR (5 of 5 patients) and 80% CR (4 of 5 patients) achieved following 1 dose at the initial dose level in patients with aggressive r/r B-NHL --

-- CB-010 is the 1st allogeneic CAR-T cell therapy to achieve 100% ORR (5 of 5 patients) --

-- Based on promising initial safety profile, ANTLER Phase 1 trial enrolling patients at dose level 2 --

-- CB-010 is the 1st allogeneic CAR-T cell therapy in the clinic with a PD-1 knockout, a genome-editing strategy designed to improve the persistence of antitumor activity --

Patient response rates following treatment with CB-010, single dose at dose level 1, in the ANTLER Phase 1 trial

Footnote: data cutoff date of February 23, 2022, data collection ongoing, efficacy based on Lugano criteria

-- Caribou webcast conference call planned for today at 10:15 am ET --

-- Initial data scheduled to be shared at the European Hematology Association (EHA) 2022 Congress; additional ANTLER data expected by YE 2022 --

BERKELEY, Calif., May 12, 2022 (GLOBE NEWSWIRE) -- Caribou Biosciences, Inc. (Nasdaq: CRBU), a leading clinical-stage CRISPR genome-editing biopharmaceutical company, today announced initial results demonstrating a 100% overall response rate (ORR) and 80% complete response rate (CR) in cohort 1 (n=5 evaluable) from its ANTLER Phase 1 trial for CB-010 in patients with relapsed or refractory B cell non-Hodgkin lymphoma (r/r B-NHL). These initial data are scheduled to be shared at the European Hematology Association (EHA) 2022 Hybrid Congress, being held in Vienna, Austria, June 9-17, 2022.

“Our initial CB-010 data are exciting, and we believe these results show the potential to set a new therapeutic bar in treating patients with aggressive r/r B-NHL. These excellent initial outcomes represent important steps toward validating our chRDNA genome-editing platform as well as our plans for future development of CB-010 and our broader pipeline,” said Rachel Haurwitz, Ph.D., Caribou’s president and chief executive officer. “CB-010 is the first allogeneic anti-CD19 CAR-T cell therapy in the clinic with a PD-1 knock-out, a genome-editing strategy designed to limit premature CAR-T cell exhaustion, potentially leading to better tumor debulking and an improved therapeutic index through sustained antitumor activity. We are slated to present additional ANTLER interim data at EHA next month and expect more data by year end as we continue to advance our lead program. Our overarching goal is to develop CB-010 such that it will meaningfully rival autologous cell therapies to reach broader groups of patients globally who are in need of off-the-shelf treatments.”

“We are excited to see a 100% overall response rate with CB-010 at dose level 1 for these patients who have limited treatment options,” said Syed Rizvi, M.D., Caribou’s chief medical officer. “We believe this initial level of activity is unparalleled for a single, starting dose of cell therapy. CB-010 was generally well-tolerated with adverse events routinely observed in autologous or allogeneic anti-CD19 CAR-T cell therapies. At EHA next month, we are scheduled to share longer follow up data from the patients in Cohort 1 who received a single administration of CB-010 at the first dose level. We look forward to continuing the development of our pipeline of allogeneic CAR-T cell therapies for patients with hematologic malignancies.”

The EHA abstract includes safety, tolerability, and initial antitumor activity of CB-010 administered at dose level 1 ($40x10^6$ CAR-T cells) to 6 patients with r/r B-NHL who had relapsed after previous treatment with a median of 3 prior therapies (range 2-8). Prior to a single dose of CB-010, patients received a lymphodepletion regimen consisting of cyclophosphamide at 60 mg/kg/d for 2 days followed by fludarabine at 25 mg/m2/d for 5 days.

As of the February 23, 2022 data cutoff date, 6 patients had been treated with CB-010 and 5 had completed the 28-day dose-limiting toxicity (DLT) evaluation period. 100% (n=5) achieved a response; 80% (n=4) achieved a CR, and 20% (n=1) achieved a partial response (PR). All 4 patients who achieved a CR at 28 days had an ongoing CR at 3 months. The longest measured CR as of the data cutoff date was 6 months.

A photo accompanying this announcement is available at: https://www.globenewswire.com/NewsRoom/AttachmentNg/84334b1d-6bd0-4170-b931-fe5ca329bc98

Following treatment with CB-010, there were no cases of graft versus host disease. 3 of 6 patients developed Grade 3 or 4 adverse events (AEs) within the first 28 days: neutropenia (50%), thrombocytopenia (33%), anemia (17%), and hypogammaglobulinemia (17%). One patient experienced Grade 1 CRS (17%) and Grade 3 ICANS (17%), which was characterized as a DLT, for which the patient received tocilizumab and steroids and recovered from the DLT within 39 hours. This patient went on to achieve a CR.

Based on promising initial safety and efficacy data from cohort 1 at dose level 1 ($40x10^6$ CAR-T cells), the ANTLER trial is now enrolling patients in cohort 2 at dose level 2 ($80x10^6$ CAR-T cells). Additional data are expected by year end.

Details of the poster presentation at EHA are as follows:
Title: First-in-human trial of CB-010, a CRISPR-edited allogeneic anti-CD19 CAR-T cell therapy with a PD-1 knock out, in patients with relapsed or refractory B cell non-Hodgkin lymphoma (ANTLER study)
Abstract: P1455
Presenter: Loretta J. Nastoupil, M.D., section chief, new drug development; associate professor, Department of Lymphoma/Myeloma, The University of Texas MD Anderson Cancer Center
Date and Time: Friday, June 10, 2022, 16:30 – 17:45 CEST (10:30 – 11:45 am ET)
Session Title: Gene therapy, cellular immunotherapy and vaccination - Clinical
Location: Messe Wien Exhibition & Congress Center, Vienna, Austria

Presentations and posters will be available for registered attendees of EHA for on-demand viewing on the EHA website on June 10, 2022 at 9:00 am CEST (3:00 am ET). Caribou plans to issue a press release on the data at 9:00 am CEST (3:00 am ET) on Friday June 10, 2022 and the poster will be

available on the Presentations page of the Investors section of Caribou's website.

Webcast Conference Call Today at 10:15 am ET
Caribou will host a webcast conference call today to discuss the initial ANTLER data for CB-010 in the accepted EHA abstract. The webcast presenters will include:

- Rachel Haurwitz, Ph.D., president and chief executive officer of Caribou
- Syed Rizvi, M.D., chief medical officer of Caribou
- Steven Kanner, Ph.D., chief scientific officer of Caribou
- Jason O'Byrne, chief financial officer of Caribou

The live webcast and conference call, with an accompanying presentation, will be accessible under Events in the Investors section of the company's website. To participate in the conference call, dial 844-862-9351 (domestic) or 929-517-0932 (international) and reference conference ID #7589468. The archived audio webcast will be available on Caribou's website following the call and will be available for 30 days.

About CB-010
CB-010 is the lead product candidate from Caribou's allogeneic CAR-T cell therapy platform and is being evaluated in patients with relapsed or refractory B cell non-Hodgkin lymphoma (r/r B-NHL) in the ongoing ANTLER Phase 1 trial. CB-010 is an allogeneic anti-CD19 CAR-T cell therapy engineered using Cas9 CRISPR hybrid RNA-DNA (chRDNA) technology to insert a CD19-specific CAR into the *TRAC* gene and knock out PD-1 to boost the persistence of antitumor activity. CB-010 is the first allogeneic CAR-T cell therapy in the clinic with a PD-1 knock out. Additional information on the ANTLER trial can be found at https://clinicaltrials.gov using identifier NCT04637763.

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 specifically engineered for enhanced persistence. Caribou is advancing a pipeline of off-the-shelf CAR-T and CAR-NK cell therapies for the treatment of 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 timing of the release of initial and additional patient data from its ANTLER phase 1 clinical trial for CB-010. 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 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; 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, 2021, 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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