Caribou Biosciences Reports Positive Additional Data from CB-010 Allogeneic CAR-T Cell Therapy Phase 1 ANTLER Trial at the European Hematology Association (EHA) 2022 Hybrid Congress

June 10, 2022

-- 100% CR rate (6 of 6 patients), with 40% CR rate (2 of 5 patients) at 6 months, achieved as best response following 1 dose at the initial dose level in patients with aggressive r/r B-NHL --

-- First patient treated in the ANTLER trial remained in CR at 12 months --

-- Based on promising initial safety profile and clinical activity, 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 --

-- Caribou webcast conference call planned for today at 8:00 am ET --

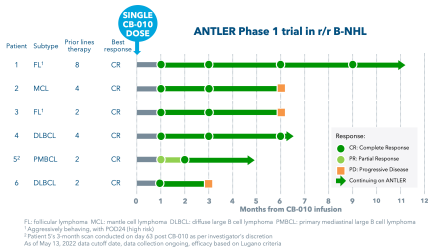
-- Additional ANTLER data expected by year-end 2022 --

BERKELEY, Calif., June 10, 2022 (GLOBE NEWSWIRE) -- Caribou Biosciences, Inc. (Nasdaq: CRBU), a leading clinical-stage CRISPR genome-editing biopharmaceutical company, today announced the presentation of additional initial clinical data from its ANTLER Phase 1 trial for CB-010 in patients with relapsed or refractory B cell non-Hodgkin lymphoma (r/r B-NHL). Following a single dose at the initial dose level of CB-010, a 100% complete response (CR) rate (6 of 6 patients) was observed as best response. At 6 months following the single dose of CB-010, 40% of patients remained in CR (2 of 5 patients) as of the May 13, 2022 data cutoff date. The data are being presented at the European Hematology Association (EHA) 2022 Hybrid Congress, being held in Vienna, Austria, June 9-17, 2022.

“The preliminary safety and efficacy results are promising. All six patients treated with CB-010 at the initial dose level of 40 million CAR-T cells achieved a complete response, and we are now enrolling dose level 2 and look forward to seeing this study mature,” said Loretta J. Nastoupil, M.D., associate professor, Department of Lymphoma/Myeloma in the Division of Cancer Medicine at The University of Texas MD Anderson Cancer Center and the presenting investigator on the ANTLER trial. “CB-010 was generally well-tolerated and the adverse events observed are consistent with autologous or allogeneic CAR-T cell therapies.”

Additional data, which was received after the cutoff date of May 13, 2022 and was not included in the EHA poster, showed the first patient treated in the ANTLER trial remained in CR at their 12-month evaluation.

Swimmerplot



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

Patients With TEAEs

Event Cohort 1 (N=6)	Any Grade[1] N (%)	Grade ≥ 3 N (%)	Related[2] Grade ≥ 3 N (%)
Total number of TEAEs	**137**	**39**	**17**
Patients with TEAEs	**6 (100)**	**5 (83)**	**4 (67)**
Neutropenia/neutrophil count decreased	5 (83)	5 (83)	1 (17)
Thrombocytopenia/platelet count decreased	4 (67)	4 (67)	3 (50)
Anemia	4 (67)	2 (33)	-
White blood cell count decreased	3 (50)	3 (50)	3 (50)
Lymphocyte count decreased	3 (50)	2 (33)	1 (17)
Lactate dehydrogenase (LDH) increased	2 (33)	1 (17)	1 (17)
Cytokine release syndrome (CRS)	2 (33)	-	-
Blood creatinine increased	2 (33)	-	-
Fatigue	2 (33)	-	-
Hypoalbuminemia	2 (33)	-	-
Hypocalcemia	2 (33)	-	-
Hyponatremia	2 (33)	-	-
ICANS	1 (17)	1 (17)	1 (17)
Febrile neutropenia	1 (17)	1 (17)	-
Syncope	1 (17)	1 (17)	-

[1] TEAE in at least 2 patients of any grade or TEAE in at least 1 patient of Grade ≥ 3 are included
[2] Related TEAEs include TEAEs with relationship to CB-010 of "probably related" or "related" as evaluated by investigator
As of May 13, 2022 data cutoff date

Treatment emergent adverse events in the ANTLER Phase 1 trial

“We believe the 100% complete response achieved in the ANTLER CB-010 trial is unparalleled for a single, starting dose of cell therapy and represents an important step toward showing the potential of our chRDNA genome-editing platform and pipeline of allogeneic cell therapies,” said Rachel Haurwitz, Ph.D., Caribou’s president and chief executive officer. “As the first allogeneic anti-CD19 CAR-T cell therapy in the clinic with a PD-1 knockout, CB-010 is designed to have sustained antitumor activity by limiting premature CAR-T cell exhaustion in patients with r/r B-NHL. As we enroll patients in cohort 2 at dose level 2 of the ANTLER trial, we are grateful for the patients, caregivers, and investigators who have participated in this clinical trial. We continue to advance CB-010, as our goal is to develop an allogeneic cell therapy that may meaningfully rival autologous cell therapies and extend the potential reach of off-the-shelf treatments for patients.”

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

The EHA poster presentation includes safety, tolerability, and initial antitumor activity data for 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).

Following treatment with CB-010, there were no cases of graft versus host disease in the six patients. Grade 3 or 4 treatment emergent adverse events (TEAEs) developed in 5 of 6 patients, see details in accompanying table. Two patients experienced Grade 1 CRS (33%) and one patient experienced Grade 3 ICANS (17%), which was characterized as a dose limiting toxicity (DLT), for which the patient received tocilizumab and steroids and recovered within 39 hours. This patient went on to achieve a CR.

Image available at: Treatment emergent adverse events in the ANTLER Phase 1 trial

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: 3103
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

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

Webcast Conference Call Today at 8:00 am ET
Caribou will host a webcast conference call today to discuss the data presented at EHA on the initial ANTLER data for CB-010.

The live webcast and conference call at 8:00 am ET, 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 1-844-862-9351 (domestic) or 1-929-517-0932 (international) and reference conference ID #4657536. 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 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; 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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