UNITED STATES SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 8-K	
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CURRENT REPORT Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): July 13, 2023 $\,$

Caribou Biosciences, Inc.

(Exact name of Registrant as Specified in Its Charter)

Delaware (State or Other Jurisdiction of Incorporation)

2929 7th Street, Suite 105 Berkeley, California (Address of Principal Executive Offices) 001-40631

45-3728228 (IRS Employer Identification No.)

> 94710 (Zip Code)

Registrant's Telephone Number, Including Area Code: (510) 982-6030

 $\label{eq:N/A} N/A \end{substitute}$ (Former Name or Former Address, if Changed Since Last Report)

Check the	e 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:

	Trading	
Title of each class	Symbol(s)	Name of each exchange on which registered
Common Stock, \$0.0001 par value per share	CRBU	NASDAQ Global Select 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 \boxtimes

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. \Box

Item 2.02 Entry Into a Material Definitive Agreement.

Preliminary unaudited cash, cash equivalents, and marketable securities as of June 30, 2023

Caribou Biosciences, Inc. (the "Company") is providing certain preliminary financial results. On a preliminary unaudited basis, the Company expects its cash, cash equivalents, and marketable securities as of June 30, 2023 to be approximately \$292.5 million. This estimate of cash, cash equivalents, and marketable securities, which includes the proceeds from the previously reported \$25 million investment from Pfizer, Inc., is its preliminary estimate based on currently available information and does not present all necessary information for an understanding of the Company's financial condition as of June 30, 2023 or its results of operations for the three and six months ended June 30, 2023. As the Company completes its quarter-end financial close process and finalizes its financial statements for the three and six months ended June 30, 2023, the Company may be required to make significant adjustments in a number of areas that may result in the estimate provided herein being different than the final reported cash, cash equivalents, and marketable securities as of June 30, 2023.

Item 7.01 Regulation FD Disclosure

On July 13, 2023, Caribou Biosciences, Inc. (the "Company") issued a press release announcing positive results of the long-term follow-up from the dose escalation portion of the ongoing ANTLER Phase 1 trial evaluating CB-010, an allogeneic anti-CD19 CAR-T cell therapy, in patients with relapsed or refractory B cell non-Hodgkin lymphoma (r/r B-NHL). A copy of the press release is attached hereto as Exhibit 99.1 and incorporated by reference herein.

The Company will host a conference call and webcast today, Thursday, July 13, 2023, at 4:30 pm ET, to discuss the positive ANTLER dose escalation data for CB-010. A copy of the slide presentation to be used during the Company's conference call and webcast is attached hereto as Exhibit 99.2 and incorporated by reference herein. Details for accessing the conference call and webcast are included in Exhibit 99.1.

The information in Items 2.02 and 7.01 of this Current Report on Form 8-K (including Exhibit 99.1 and Exhibit 99.2) shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), or otherwise subject to the liabilities of that section, nor shall it be, or be deemed, incorporated by reference in any filings under the Securities Act of 1933, as amended (the "Securities Act"), regardless of any general incorporation language in any such filing or document, unless the Company specifically states that the information is to be considered "filed" under the Exchange Act or incorporates it by reference into a filing under the Securities Act or the Exchange Act.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits

Exhibit No.	Description
99.1	Press Release issued by Caribou Biosciences, Inc. on July 13, 2023
99.2	Caribou Biosciences, Inc. CB-010 Clinical Program Update July 13, 2023
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, as amended, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

Caribou Biosciences, Inc.

July 13, 2023 Date:

By: /s/ Rachel E. Haurwitz

Rachel E. Haurwitz President and Chief Executive Officer



Caribou Biosciences Reports Positive Clinical Data from Dose Escalation of CB-010 ANTLER Phase 1 Trial in r/r B-NHL

- -- CB-010 allogeneic CAR-T cell therapy data rival response rates and safety profile of approved autologous CAR-T cell therapies --
- -- 94% overall response rate (ORR), 69% complete response (CR) rate, and 44% CR rate at ≥6 months following a single dose of CB-010; 24 months is the longest CR maintained to date --
 - -- LBCL patient subgroup had a 50% CR rate at ≥6 months; 18 months is the longest LBCL subgroup CR maintained to date --
 - -- Actively enrolling second-line LBCL patients in ANTLER dose expansion --
 - -- Conference call and webcast scheduled for today at 4:30 pm ET --

BERKELEY, CA, July 13, 2023 – Caribou Biosciences, Inc. (Nasdaq: CRBU), a leading clinical-stage CRISPR genome-editing biopharmaceutical company, today reported long-term follow-up data from the dose escalation portion of the ongoing ANTLER Phase 1 trial. The data set includes all 16 patients treated in dose escalation with CB-010, an allogeneic anti-CD19 CAR-T cell therapy being evaluated in patients with relapsed or refractory B cell non-Hodgkin lymphoma (r/r B-NHL).

In ANTLER dose escalation, three dose levels of CB-010 were evaluated (40x106, 80x106, and 120x106 CAR-T cells) in patients with multiple subtypes of aggressive r/r B-NHL. As of the data cutoff date, results demonstrated:

- CB-010 was generally well tolerated with adverse events consistent with autologous or allogeneic anti-CD19 CAR-T cell therapies; as previously reported, no dose-limiting toxicities (DLTs) were observed at dose levels 2 or 3 following a single DLT at dose level 1.
- 94% overall response rate (ORR; 15 of 16 patients) was observed following a single dose of CB-010.
- 69% of patients (11 of 16) achieved a complete response (CR).
- 44% of patients (7 of 16) had a CR at ≥6 months; 24 months is the longest CR maintained to date.
- For the subset of patients with large B cell lymphoma (LBCL) (N=10):
 - A 90% ORR (9 of 10) was observed.
 - 70% (7 of 10) achieved a CR.
 - o 50% (5 of 10) had a CR at ≥6 months; 18 months is the longest CR maintained to date.

Each of the 16 patients had aggressive r/r B-NHL and had received two or more prior lines of chemoimmunotherapy or were primary refractory patients.

Based on these positive data, Caribou is enrolling second-line patients with LBCL in the ongoing dose expansion portion of the ANTLER clinical trial. In expansion, the mid dose and the high dose from escalation (80x106 and 120x106 CAR-T cells) are being evaluated in approximately 30 second-line patients (approximately 15 patients per dose level) to determine the recommended Phase 2 dose



(RP2D). Once the RP2D is determined, Caribou may enroll additional patients in ANTLER. Caribou plans to report initial dose expansion data from the ongoing ANTLER trial in H1 2024.

"I am excited to see the initial and durable response rates for patients following a single dose of CB-010 in the ANTLER Phase 1 clinical trial. The data are promising and may offer a clinical advantage as an off-the-shelf option compared with approved autologous CAR-T cell therapies," said Loretta J. Nastoupil, MD, deputy chair and associate professor in the department of lymphoma/myeloma at the University of Texas MD Anderson Cancer Center in Houston and investigator on the ANTLER trial. "In addition to encouraging antitumor activity, CB-010 could provide greater access to patients, including those who are not eligible for or cannot wait for an autologous CAR-T cell therapy. As the field of cell therapy moves to earlier lines of treatment, I look forward to being part of CB-010's development as an off-the-shelf treatment option for patients with LBCL in the second-line clinical setting."

To Caribou's knowledge, CB-010 is the first allogeneic anti-CD19 CAR-T cell therapy in the clinic to be evaluated in second-line LBCL patients and CB-010 is also the first allogeneic anti-CD19 CAR-T cell therapy in the clinic with a PD-1 knockout, a genome-editing strategy designed to enhance antitumor activity by limiting premature CAR-T cell exhaustion.

"CB-010 dose escalation data rival the responses from autologous cell therapies and demonstrate the potential utility of an off-the-shelf CAR-T cell therapy that could, if approved, provide greater access to patients in need," said Rachel Haurwitz, PhD, Caribou's president and chief executive officer. "We are actively enrolling patients in dose expansion to gain a better understanding of the safety and antitumor activity of CB-010 in a greater number of patients. We look forward to determining a recommended Phase 2 dose of CB-010, engaging with the FDA on next steps, and reporting ANTLER dose expansion data in the first half of 2024."

ANTLER Phase 1 trial of CB-010

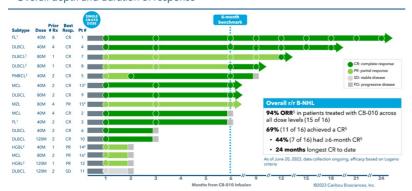
A photo accompanying this announcement is available at

https://pr.globenewswire.com/FileDownloader/DownloadFile?source=pnr&fileGuid=659312ff-d77b-4b83-9813-b2368d5a22c2. A superior of the control of the contro



CB-010 ANTLER dose escalation efficacy assessment

Overall depth and duration of response



DLBCL: diffuse large B cell lymphoma; FL: follicular lymphoma; HGBL: high-grade B cell lymphoma; MCL: mantle cell lymphoma; MZL: marginal zone lymphoma; PMBCL: primary mediastinal large B cell lymphoma.

Aggressively behaving, with POD24 (high risk).

Primary refractory disease.

Patients 5's 3-month scan conducted on day 63 post CB-010 as per investigator's discretion.

Patients 13-16 are backfill patients at 40M and 80M.

Certain patients converted from a CR or PR to PD at various assessment time points as indicated in the chart above.

ANTLER Phase 1 trial of CB-010 - response data

Dose escalation (N=16)

	r/r B-NHL	r/r LBCL¹	2L LBCL ²
Endpoints N, (%)	All patients (N=16)	Subgroup (N=10)	Subgroup (N=4)
Overall response rate (ORR)	15 (94%)	9 (90%)	4 (100%)
Complete response (CR) rate	11 (69%)	7 (70%)	2 (50%)
≥6-month CR rate	7 (44%)	5 (50%)	2 (50%)
CR at longest duration to date	24 months	18 months	12 months ³

¹ Subgroup includes patient #4, 5, 6, 7, 8, 9, 10, 11, 12, and 14. ² Four primary refractory patients were enrolled in dose escalation. Subgroup includes patient #7, 8, 12, and 14. ³ Patient #7 had a CR at 12 months, which converted from PR at the prior efficacy assessment. These efficacy data are as of the June 20, 2023 efficacy data cutoff date.

CB-010 was generally well tolerated with adverse events consistent with autologous or allogeneic anti-CD19 CAR-T cell therapies. No grade 3+ cytokine release syndrome (CRS) and no graft-vs-host disease (GvHD) cases were observed. The most common adverse events included thrombocytopenia (69% Grade 3+), neutropenia (56% Grade 3+), and anemia (50% Grade 3+).



<u></u>	mergent adverse events (TEAE) of special interest All patients (N=16)				
Adverse event N, (%)	All Grades	Grade 3+			
CRS	7 (44%)	-			
ICANS ¹	4 (25%)	2 (13%)			
Infections ²	7 (44%)	1 (6%)3			

ANTLER Phase 1 trial of CB-010 - safety data

CRS, cytokine release syndrome; ICANS, immune effector cell-associated neurotoxicity. ¹ Four total events, 2 Grade 1; 2 Grade 3+ at dose level 1, both with complete resolution of symptoms with supportive care. ² Infection events reported were on or after CB-010 infusion, with highest grade reported per patient. ³ Grade 3 cellulitis (right antecubital) occurred after CB-010 infusion and was unrelated to CB-010 per the investigator. These safety data are as of May 4, 2023 safety data cutoff date.

Webcast conference call today at 4:30 pm ET

Caribou will host a live conference call and webcast today at 4:30 pm ET to discuss the ANTLER dose escalation data for CB-010. The webcast presenters will include:

- a. Loretta J. Nastoupil, MD, deputy chair and associate professor in the department of lymphoma/myeloma at the University of Texas MD Anderson Cancer Center in Houston
- b. Rachel Haurwitz, PhD, president and chief executive officer of Caribou
- c. Syed Rizvi, MD, chief medical officer of Caribou
- d. Steven Kanner, PhD, chief scientific officer of Caribou

If you would like the option to ask a question on the live conference call, please use this link to register to receive a personal PIN to access the conference call and to ask a question.

The listen-only webcast with an accompanying presentation will be accessible under Events in the Investors section of Caribou's website. The archived audio webcast will be available on the company'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, Caribou is enrolling second-line patients with large B cell lymphoma (LBCL) comprising four different subtypes of aggressive r/r B-NHL (DLBCL NOS, PMBCL, HGBL, and tFL). CB-010 is an allogeneic anti-CD19 CAR-T cell therapy engineered using Cas9 CRISPR hybrid RNA-DNA (chRDNA) technology. To Caribou's knowledge, CB-010 is the first allogeneic CAR-T cell therapy in the clinic with a PD-1 knockout, a genome-editing strategy designed to improve antitumor activity by limiting premature CAR-T cell exhaustion. To Caribou's knowledge, CB-010 is also the first anti-CD19 allogeneic CAR-T cell therapy to be evaluated in the second-line LBCL setting and has been granted Regenerative Medicine Advanced Therapy (RMAT), Fast Track, and Orphan Drug designations by the FDA. Additional information on the ANTLER trial (NCT04637763) can be found at clinicaltrials.gov.



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 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. Follow us @CaribouBio and visit www.cariboubio.com.

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 updates from, and strategy, safety, efficacy, and potential advantages of, its ANTLER Phase 1 clinical trial for CB-010, and the potential of Caribou's product candidates to generate durable complete responses and safety results similar to approved autologous CAR-T cell therapies. Management believes that these forward-looking statements are reasonable as and when made. However, such forward-looking statements are subject to risks and uncertainties, which may cause actual results to differ materially from any future results expressed or implied by the forward-looking statements. These 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 observed will not be borne out in human patients; as well as other risk factors described from time to time under the heading "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" 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

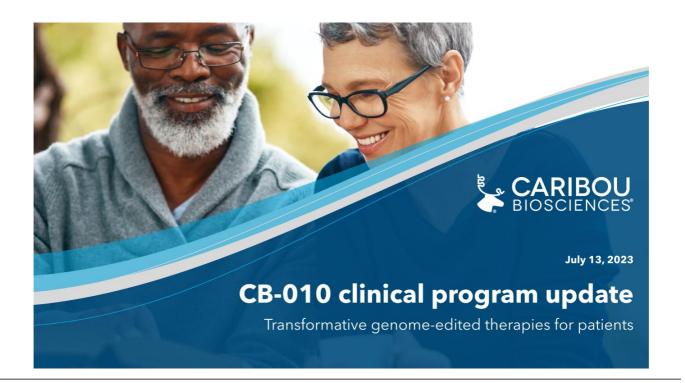


In addition, caution should be exercised when interpreting results from separate trials involving separate product candidates. Clinical trials of other companies' CAR-T cell therapies referenced in this press release were run independently of Caribou and Caribou has only reviewed publicly available reports of those trials. Caribou has not performed any head-to-head trials comparing any of these other CAR-T cell therapies with CB-010. As such, the results of these other clinical trials may not be comparable to clinical results for CB-010. The design of these other trials vary in material ways from the design of the clinical trials for CB-010, including with respect to patient populations, follow-up times, the clinical trial phase, and subject characteristics. As a result, cross-trial comparisons may have no interpretive value on Caribou's existing or future results. For further information and to understand these material differences, you should read the reports for the other companies' clinical trials.

Caribou Biosciences, Inc. Contacts:

Investors: Amy Figueroa, CFA investor.relations@cariboubio.com

Media: Peggy Vorwald, PhD media@cariboubio.com



Forward-looking statements

All statements in this presentation, other than statements of historical facts, are forward-looking statements, within the meaning of the Private Securities Litigation Reform Act of 1995. These forward-looking statements speak only as of the date of this presentation and are subject to a number of known and unknown risks, assumptions, uncertainties, and other factors that may cause the actual results, levels of activity, performance, or achievements of Caribou Biosciences, Inc. (the "Company," "Caribou," "we," or "our") to be materially different from those expressed or implied by any forward-looking statements. The words "may," "will," "should, "expect," plan," "articipate," "could, "intend," 'crould, "intend," 'crould, "intend," 'crould, "intend, 'crould, "intend, 'crould, 'intend, 'crould, 'crould,

candicates are being or will be studied.

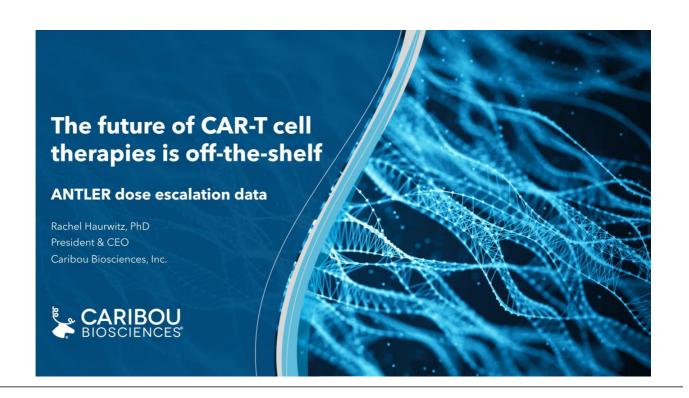
As a result of many factors, including risks related to our limited operating history, history of net operating losses, financial position and our ability to raise additional capital as needed to fund our operations and product candidate development; uncertainties related to the initiation, cost, timing, and progress, and results of our current and future research and development programs, preclinical studies, and clinical trials; risks that initial or interim clinical trial data will not utilimately be predictive of the safety and efficacy of our product candidates are more clinical data becomes available; the risk that preclinical study results we observed will not be borne out in human patients; our ability to obtain and maintain regulatory approval for our product candidates, risks that our product candidates, if approved, may not gain market acceptance due to negative public opinion and increased regulatory scruting of cell therapies involving genome editing; our ability to ener future regulatory scratdards with respect to our products; our ability to establish and/for maintain intellectual property rights covering our product candidates and genome-editing technology; risks of third parties asserting that our product candidates infringe their patients; developments related to our competitors and our industry, our reliance on third parties to conduct our clinical trials and manufacture our product candidates infring their patients; developments related to our competitors and operations; and other risks described in greater detail in our filings with the Securities and Exchange Commission (the "SEC"), including the section titled "Risk Factors" of our Annual Report on Form 10.K for the year ended December 31, 2022, and other filings we make with the SEC; the events and dicrumstances reflected in our forward-looking statements may not be achieved or may not occur, and actual results could differ materially from those described in or implied by the forward-looking stat

Caution should be exercised when interpreting results from separate trials involving separate product candidates: The results of other companies' CAR-T cell therapies presented in these slides have been derived from publicly available reports of clinical trials run independently of Caribou. The Company has not performed any head-to-head trials comparing any of these other CAR-T cell therapies with CB-010. As such, the results of these other clinical trials may not be comparable to clinical results for CB-010. The design of these other trials vary in material ways from the design of the clinical trials for CB-010, including with respect to patient populations, follow-up times, the clinical trials phase, and subject characteristics. As a result, cross-trial comparisons may have understand these material differences, you should read the reports for the other companies' clinical trials and the sources included in this presentation.

In light of the foregoing, you are urged not to rely on any forward-looking statement or third-party data in reaching any conclusion or making any investment decision about any securities of the Company. The forward-looking statements in this presentation are made only as of the date hereof. Except to the extent required by law, the Company assumes no obligation and does not intend to update any of these forward-looking statements after the date of this presentation or to conform these statements to actual results or revised expectations. From time to time, the Company may release additional clinical data from its ongoing ANTLER phase 1 clinical trial and its CaMMoulfage phase 1 clinical trial. The Company makes no representations regarding such additional clinical data or the timing of its release, or whether any such data will support or contradict the findings of the clinical data reported earlier.

This presentation shall not constitute an offer to sell or the solicitation of an offer to buy any securities





Today's guest



Loretta J. Nastoupil, MD

Deputy chair and associate professor in the department of lymphoma/myeloma

The University of Texas MD Anderson Cancer Center

CB-010 clinical program update | July 2023 ©2023 Caribou Biosciences, Inc.

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With gratitude for patients, caregivers, investigators

- University of Texas MD Anderson Cancer Center
- Chao Family Comprehensive Cancer Center / University of California Irvine, Orange
- · Oncology Hematology Care, Cincinnati
- Baylor Charles A. Sammons Cancer Center, Dallas
- Huntsman Cancer Institute at the University of Utah
- · HonorHealth, Scottsdale
- University of California San Diego Moores Cancer Center, La Jolla
- University of Arizona Cancer Center, Tucson
- · Holden Comprehensive Cancer Center at University of Iowa, Iowa City
- · Atlantic Health System, Morristown
- Ohio State University James Cancer Hospital, Columbus
- · Additional sites coming soon
- 5 <u>Clinicaltrials.gov</u> NCT#04637763

THANK YOU

for your contributions
toward Caribou's mission to
develop innovative,
transformative therapies for
patients with devastating
diseases through novel
genome editing



CB-010 dose escalation data rival approved autologous CAR-T cell therapies

94% overall response rate (ORR)¹ complete response (CR)

44% complete response (CR) rate ≥6 months³

dose escalation patients

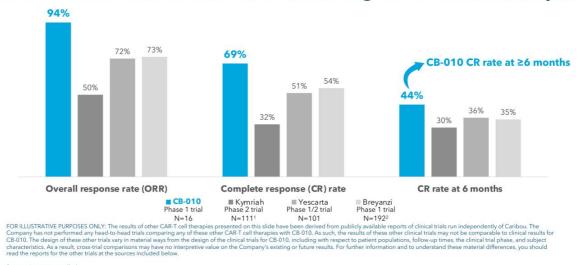
lymphodepletion regimen evaluated

1 dose per patient, 3 dose levels evaluated, all generally well tolerated



^{194%} ORR measures number of patients (15 of 16) achieving either a CR or partial response (PR) at any time point after treatment with CB-010.
269% CR rate measures the number of patients (11 of 16) achieving a CR at any time point after treatment with CB-010.
348% CR rate measures number of patients (7 of 16) with a CR at 6-month or greater time point; includes one patient who converted from PR to CR at 12-month assessment.
1.8.3 Certain patients converted from a CR or PR to progressive disease (PD) at various assessment time points.

CB-010 drives durable CRs that rival autologous CAR-T cell therapies



Sources / patients enrolled Kymriah: USPI, NCT02445248, Schuster NEJM 2019 / DLBCL NOS (78%) and tFL (22%)
Yescarta: USPI, NCT02345216, Focused on the Cure, Kite Pharma Corporate Presentation, March 2017 / DLBCL (76%), tFL (16%) and PMBCL (8%)
Breyanzi: USPI, NCT022531044 / DLBCL NOS (53%), DLBCL transformed from indolent lymphoma (25%), HGBL (14%), PMBCL (7%) and FL grade 3B (1%)

CB-010 clinical program update | July 2023
Breyanzi: USPI, NCT022531044 / DLBCL NOS (53%), DLBCL transformed from indolent lymphoma (25%), HGBL (14%), PMBCL (7%) and FL grade 3B (1%)

CB-010 clinical program update | July 2023
CB-010 clinical program update | July 2023
Breyanzi: USPI, NCT02531044 / DLBCL NOS (53%), DLBCL transformed from indolent lymphoma (25%), HGBL (14%), PMBCL (7%) and FL grade 3B (1%)

CB-010 clinical program update | July 2023
CB-0



Patients shouldn't have to wait for treatment



8 ¹ Mikhael, J. et al. JCO Oncology Practice 2022 18:12, 800-807



Pipeline: allogeneic cell therapies targeting oncology indications

Program	Clinical trial	Target	Indication	Discovery	IND enabling	Phase 1	Phase 2	Phase 31	Designations
CAR-T pl	atform with cell	therapie	s for hematol	ogic indicat	ions				
CB-010	ANTLER dose expansion	CD19	r/r B-NHL	-	•	•	0	0	RMAT, Fast Track, Orphan Drug
CB-011	CaMMouflage dose escalation	ВСМА	r/r MM	-	•	-	0	\bigcirc	Fast Track
CB-012	IND application planned	CLL-1 ²	r/r AML	-	-	0	0	0	
CAB-NK	platform with iP	SC-derix	red cell thera	nies for solie	tumor indi	cations			
CB-020	piationii witii ii	ROR1	solid tumors	—	0	0	0	0	
				3					
ALLAN									
AbbVie CAR-T prod	programs under	collabo	ration agreem	ient	und	lisclosed			

IND: investigational new drug; RMAT: Regenerative Medicine Advanced Therapy $^1\text{Phase 3}$ may not be required if Phase 2 is pivotal 9 $^2\text{Also known as CD371}$ $^3\text{AbbVie}$ has an option for two additional CAR-T cell programs

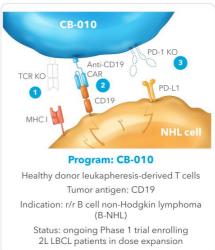


CB-010 has a PD-1 KO designed to reduce T cell exhaustion

ey attributes	CB-010	Conventiona allogeneic anti-CD19 CAR-Ts
Cas9 chRDNA editing for enhanced genomic integrity	⊘	\otimes
Reduced off-target editing and genomic rearrangements	⊘	\otimes
TRAC gene knockout (KO) • Eliminates TCR expression, reduces GvHD risk	\odot	Varies
Anti-CD19 CAR site-specific insertion into TRAC locus • Eliminates random integration, targets tumor antigen	0	Varies
PD-1 KO for enhanced antitumor activity	⊘	\otimes
Potentially better therapeutic index via initial tumor debulking	\odot	\otimes

CB-010 CAR construct uses an anti-CD19 scFv FMC63 with a 4-1BB costimulatory domain

CAR: chimeric antigen receptor; KO: knockout; CD: cluster of differentiation; chRDNA: CRISPR hybrid RNA-DNA; CRISPR: clustered regularly interspaced short palindromic repeats; PD-1: programmed cell death protein 1; TCR: T cell receptor; TRAC: T cell receptor alpha constant; scFv; single-chain variable fragment









Disclosures

- LJN has received honorarium for participation in advisory boards or consulting from Abbvie, ADC Therapeutics, Astra Zeneca, BMS, Caribou Biosciences, Daiichi Sankyo, Epizyme, Genentech/Roche, Genmab, Gilead/Kite, Incyte, Janssen, MorphoSys, Novartis, Regeneron, Sirpant, and Takeda.
- LJN has received research support from BMS, Caribou Biosciences, Daiichi Sankyo, Epizyme, Genentech/Roche, Genmab, Gilead/Kite, Janssen, IGM Biosciences, Novartis, and Takeda.
- LJN serves on data safety monitoring boards for DeNovo, Genentech, MEI, NCI, and Takeda.



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CB-010 ANTLER Phase 1 trial: dose expansion in 2L LBCL underway

Part A: 3+3 dose escalation - completed (N=16)

- Eligibility: aggressive r/r B-NHL¹ with ≥2 prior lines of chemoimmunotherapy or primary refractory
- Exclusion: prior CD19-targeted therapy





NCT04637763

Subtypes include: DLBCL, HGBL, tFL, PMBCL, FL, MZL, MCL (Note, FL subtype is aggressively behaving, with POD24 (high risk))

2 IBCL subtypes include: DLBCL, HGBL, FMBCL, tFL

3 Clin Cancer Res. 2011 July 1; 17(13): 4550-4557. doi:10.1158/1078-0432.CCR-11-0116

Includes 2 backfill patients at dose level 1 and 2 backfill patients at dose level 2



Patients in ANTLER all had aggressive r/r B-NHL Patients' baseline and disease characteristics

Characteristics	Total (N=16)
Median age, years (range)	66 (55-82)
Male, n (%)	14 (88)
ECOG performance status, n (%)	
0	6 (38)
1	10 (62)
Time since first diagnosis, years	
Median (range)	2.4 (0.2-16.4)
Non-Hodgkin lymphoma subtype, n (%)	
LBCL	10 (63)
DLBCL	7 (44)
HGBL	2 (13)
PMBCL	1 (6)
Other B-NHL	6 (38)
MCL	3 (19)
FL ¹	2 (13)
MZL	1 (6)
CD19+ disease, n (%)	16 (100)
Prior systemic therapies, median number (range) ²	2 (1-8)

Prior systemic therapies, median number (range)²

2 (1-8)

DLBCL: diffuse large B cell lymphoma; FL: follicular kymphoma; HGBL: high-grade B cell lymphoma; MCL: mantle cell lymphoma; MZL: marginal cone lymphoma; PMBCL: primary mediastinal large B cell lymphoma

Aggressively behaving, with PCD24 (high risk)

Patients are CD19 CAR-T naïve

CB-010 clinical program update | July 2023 |

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CB-010 has generally well-tolerated safety profile No DLTs at dose level 2 or dose level 3, no Grade 3+ CRS, no GvHD observed (N=16)

AEs of special	ANTLER dose escalation (N=16)							on (N=16)	
interest	CRS	ICANS ¹	Infections ^{2, 3}						
Any grade, N (%)	7 (44%)	4 (25%)	7 (44%)						
Grade 1	4 (25%)	2 (13%)	2 (13%)						
Grade 2	3 (19%)	-	4 (25%)						
Grade 3	6	1 (6%)	1 (6%) ³						
Grade 4	¥	1 (6%)	2						
Median time to onset, days (range)	3.5 (1,7)	7.5 (5,10)	27.0 (0, 279)						
Median duration, days (range)	3.0 (1,9)	2.0 (1,34)	14.0 (2,63)						

et, s (range)	3.5 (1,7)	7.5 (5,10)	27.0 (0, 279)	Breyanzi	4%	12%	23%
dian duration, s (range)	3.0 (1,9)	2.0 (1,34)	14.0 (2,63)	Phase 16			
			y; GvHD: graft-versus-host-disease;	FOR ILLUSTRATIVE PURPOSES Of have been derived from publicly	ONLY: The results of other available reports of clinic	CAR-T cell therapies al trials run independ	presented on thi dently of Caribou.

CB-010

Phase 2⁴ Yescarta

Phase 1/2⁵

ANTLER Phase 1

care.

² Infection events reported were on or after CB-010 infusion, with highest grade reported per patient.

³ Grade 3 cellulitis (right antecubital) occurred after CB-010 infusion and was unrelated to CB-010 per the

⁴ Kymriah: USPI, NCT02445248, Schuster NEJM 2019, N=111

⁵ Yescarta: USPI, NCT02348216, N=101

⁶ Breynari: USPI, NCT02340144, N=192

As of May 4, 2023 data cutoff date

0%

23%

13%



ICANS Gr 3+

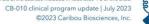
13%

15%

31%

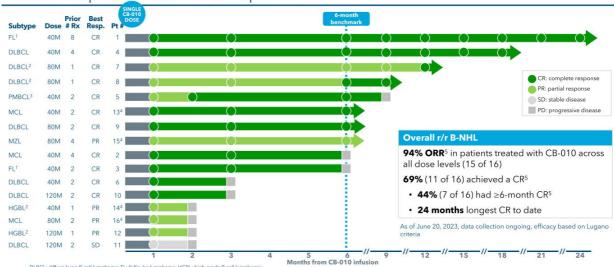
6%

41%



CB-010 ANTLER dose escalation efficacy assessment

Overall depth and duration of response



DLBCL: diffuse large B cell lymphoma; FL: follicular lymphoma; HGBL: high-grade B cell lymphoma; MCL: mantle cell lymphoma, MZL: marginal zone lymphoma; PMBCL: primary mediastinal large B cell lymphoma 1 Aggressively behaving, with POD24 (high risk) 2 Primary refractory disease 3 Patient S 3-3 month scan conducted on day 63 post CB-010 as per investigator's discretion 4 Patients 13-16 are backfill patients at 40M and 80M 3 Certain patients converted from a CR or PR to PD at various assessment time points as indicated in the chart above



Subgroup efficacy profile supports 2L LBCL clinical development

	r/r B-NHL	r/r LBCL ²	2L LBCL ³
Endpoints N, (%)	All patients (N=16)	Subgroup (N=10)	Subgroup (N=4)
Overall response rate (ORR) ¹	15 (94%)	9 (90%)	4 (100%)
Complete response (CR) rate ¹	11 (69%)	7 (70%)	2 (50%)
≥6-month CR rate ¹	7 (44%)	5 (50%)	2 (50%)
CR at longest duration to date	24 months	18 months	12 months ⁴

¹ Certain patients converted from a CR or partial response (PR) to progressive disease (PD) at various assessment time points.

² Subgroup includes patients #4, 5, 6, 7, 8, 9, 10, 11, 12, and 14.

³ Four primary refractory patients were enrolled in doce escalation. Subgroup includes patient #7, 8, 12, and 14.

⁴ Patient #7 had a CR at 12 months, which converted from PR at the prior efficacy assessment.







Fireside chat with Dr. Nastoupil



Loretta J. Nastoupil, MD

Deputy chair and associate professor in the department of lymphoma/myeloma

The University of Texas MD Anderson Cancer Center

Rachel Haurwitz, PhD

President and CEO

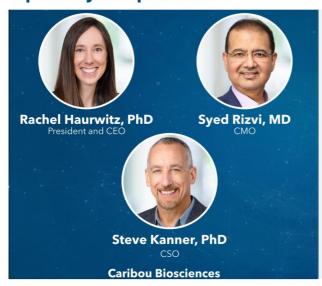
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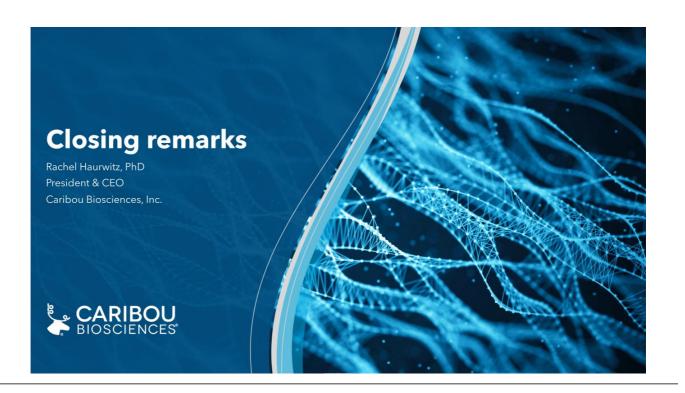


Open to your questions





Loretta J. Nastoupil, MD Deputy chair and associate professor in the department of lymphoma/myeloma The University of Texas MD Anderson Cancer Center



With gratitude for patients, caregivers, investigators

- University of Texas MD Anderson Cancer Center
- Chao Family Comprehensive Cancer Center / University of California Irvine, Orange
- · Oncology Hematology Care, Cincinnati
- Baylor Charles A. Sammons Cancer Center, Dallas
- Huntsman Cancer Institute at the University of Utah
- · HonorHealth, Scottsdale
- University of California San Diego Moores Cancer Center, La Jolla
- University of Arizona Cancer Center, Tucson
- · Holden Comprehensive Cancer Center at University of Iowa, Iowa City
- Atlantic Health System, Morristown
- Ohio State University James Cancer Hospital, Columbus
- · Additional sites coming soon

23 Clinicaltrials.gov NCT#04637763

THANK YOU

for your contributions
toward Caribou's mission to
develop innovative,
transformative therapies for
patients with devastating
diseases through novel
genome editing



Dose escalation data support ANTLER dose expansion

CB-010 single dose allogeneic CAR-T cell therapy

- > Response rates rival approved autologous CAR-T cell therapies
- > Generally well-tolerated safety profile
- > Off-the-shelf, readily-available
- > RMAT and Fast Track designations enable FDA interactions
- > Safety and efficacy profile supports clinical development in second-line LBCL patients

94% overall response rate (ORR)¹ 69% complete response (CR) rate² 44% complete response (CR) rate

1.04% ORR measures number of patients (15 of 16) achieving either a CR or partial response (PR) at any time point after treatment with CB-010.
2.69% CR rate measures the number of patients (11 of 16) achieving a CR at any time point after treatment with CB-010.
2.44% CR rate measures number of patients (7 of 16) with a CR at 6-month or greater time point; includes one patient who converted from PR to CR at 12-month assessment.
3.2.3 Certain patients converted from a CR or PR to progressive disease (PD) at various assessment time points.



The momentum continues in 2023



CB-010

Positive dose escalation data Enrolling 2L LBCL patients in dose expansion RMAT, Fast Track designations

Recent accomplishments



CB-011

CaMMouflage trial initiated First patient dosed Fast Track designation

0

CB-012

Presented AACR poster with preclinical AML data



Well capitalized

\$292.5M in cash¹
Expected runway into
2025²
\$25M Pfizer investment

Future anticipated milestones

CB-010

ANTLER dose expansion data H1 2024

CB-011

CaMMouflage dose escalation updates

CB-012

IND submission planned in H2 2023

IND: investigational new drug. RMAT: Regenerative Medicines Advanced Therapy Preliminary cast, Ana equivalents, and marketable securities of June 30, 2022; includes \$25M Pfizer investment. We are currently finalizing our financial results for the three and six months ended June 30, 2023. While complete financial information is not yet available the results presented above reflect preliminary estimates. Preliminary estimates represent the most current information available to management and do not present all necessary information for an understanding of our results of operations for such period and have not been reviewed or audited by our independent registered public accounting firm. Such results are preliminary estimates because the financial closing procedures for the three and six months ended June 30, 2023 are not yet complete. As a result,

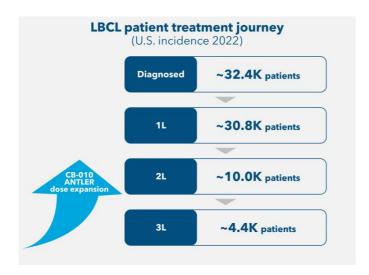
registered public accounting firm. Such results are preliminary estimates because the financial closing procedures for the three and six months ended in more 30, 2023 are not yet complete. As a result of Spring results may very from these preliminary estimates. We currently expect that final results will be as or near these preliminary estimates, which at actual final results will be as or near these preliminary estimates, which is actual final results may differ materially from these estimates due to the completion of our financial closing procedures, final adjustments and other developments that may arise and these estimates should be read together will the discussion of forward-boding patternents included in the discussions that follows the occurs page of this presentance.

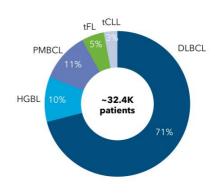






Potential to address high unmet medical need in 2L LBCL





28 Source: market research on file

CB-010 ANTLER dose escalation efficacy assessment Overall, r/r, and 2L LBCL subgroups, by dose level

	r/r B-NHL	r/r LBCL ²	2L LBCL ³	CB-010 dose level		
Endpoints (N, %)	All patients (N=16)	Subgroup (N=10)	Subgroup (N=4)	40M (N=8)	80M (N=5)	120M (N=3)
Overall response rate (ORR) ¹	15 (94%)	9 (90%)	4 (100%)	8 (100%)	5 (100%)	2 (67%)
Complete response (CR) rate ¹	11 (69%)	7 (70%)	2 (50%)	7 (88%)	3 (60%)	1 (33%)
≥6-month CR rate ¹	7 (44%)	5 (50%)	2 (50%)	4 (50%)	3 (60%)	0
CR at longest duration	24 months	18 months	12 months ⁴	24 months	12 months	28 days



¹ Certain patients converted from a CR or partial response (PR) to progressive disease (PD) at various assessment time points.

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² Subgroup includes patients #4, 5, 6, 7, 8, 9, 10, 11, 12, and 14.

³ Four primary refractory patients were enrolled in dose escalation. Subgroup includes patient #7, 8, 12, and 14.

⁴ Patient #7 had a CR at 12 months, which converted from PR at the prior efficacy assessment.

CB-010's responses rival autologous CAR-T cell therapies

	CB-010 dose escalation Phase 1 % (n/N)	Kymriah Phase 2 % (n/N)	Yescarta Phase 1/2 % (n/N)	Breyanzi Phase 1 % (n/N²)
Overall response rate (ORR) ¹	94% (15/16)	50% (34/68)	72% (73/101)	73% (141/192)
Complete response (CR) rate ¹	69% (11/16)	32% (22/68)	51% (52/101)	54% (104/192)
CR rate at 6 months ¹	44% (7/16) ³	30% (33/111)	36% (36/101)	35% (68/192)
CRS (Grade 3+)	0% (0/16)	23%	13%	4%
ICANS (Grade 3+)	13% (2/16)	15%	31%	12%
Infections (Grade 3+)	6% (1/16)	41%	29%	23%

FOR ILLUSTRATIVE PURPOSES ONLY: The results of other CAR-T cell therapies presented on this slide have been derived from publicly available reports of clinical trials run independently of Caribou. The Company has not performed any head-to-head trials comparing any of these other CAR-T cell therapies with CB-010. As such, the results of these other clinical trials may not be comparable to clinical results for CB-010. The design of these other trials vary in material ways from the design of the clinical trials for CB-010, including with respect to patient populations, follow-up times, the clinical trial phase, and subject characteristics. As a result, cross-strial comparisons may have no interpretive value on the Company's existing or future results. For further information and to understand these material differences, you should read the reports for the other trials at the sources included below.

Sources / patients enrolled Kymriah: USPI, NCT0245248, Schuster NEJM 2019 / DLBCL NOS (78%) and tFL (22%) Yescarta: USPI, NCT02348216 / Locke, et al. AACR 2017 ZUMA-1 presentation / DLBCL (76%), tFL (16%) and PMBCL (6%) Breyanzi: USPI, NCT02348216 / Locke, et al. AACR 2017 ZUMA-1 presentation / DLBCL (76%), tFL (16%) and FMBCL (7%) and FL grade 3B (1%) CB-010 clinical program update | July 2023 |

1 Certain patients converted from a CR or partial response (PR) to progressive disease (PD) at various assessment time points.

2 Enrolled population was 299; 6-month CR rate shown are patients who received treatment with Breyanzi.



CB-010 dose escalation data compare favorably to other allogeneic CAR-T cell therapy approach

	CB-0 N (⁵		ALLO-501/501A N (%)		
	All r/r B-NHL patients (N=16)	r/r LBCL patients (N=10)	All r/r LBCL patients (N=48)	r/r LBCL patients Phase 2 dose only (N=12)	
Overall response rate (ORR) ¹	94% (15)	90% (9)	48% (23)	67% (8)	
Complete response (CR) rate ¹	69% (11)	70% (7)	29% (14)	58% (7)	
CR rate at 6 months ¹	44% (7) ²	50% (5) ²	23% (9)	42% (5)	

FOR ILLUSTRATIVE PURPOSES ONLY: The results of other CAR-T cell therapies presented on this slide have been derived from publicly available reports of clinical trials run independently of Caribou. The Company has not performed any head-to-head trials comparing any of these other CAR-T cell therapies with CB-010. As such, the results of these other clinical trials may not be comparable to clinical results for CB-010. The design of these other trials vary in material ways from the design of the clinical trials for CB-010, including with respect to patient populations, follow-up times, the clinical trial phase, and subject characteristics. As a result, cross-trial comparisons may have no interpretive value on the Company's existing or future results. For further information and to understand these material differences, you should read the reports for the other trials at the sources included below.



³¹ Source: Allogene corporate presentation (June 2023) and Allogene R&D Showcase (November 2022)

¹ Certain patients converted from a CR or partial response (PR) to progressive disease (PD) at various assessment time points.

² CR rate ≥6 months

CB-010 is generally well tolerated Treatment-emergent adverse events (TEAE)

Event (N=16)	Any Grade ¹ N (%)	All Grade 3+ N (%)	Related Grade 3+ N (%) 28 8 (50)	
(N=10) Total number of TEAEs, N	348	96		
Subjects with TEAE, n (%)	15 (94)	14 (88)		
Thrombocytopenia/platelet count decreased	11 (69)	11 (69)	5 (31)	
Anemia	11 (69)	8 (50)	1 (6)	
Neutropenia/Neutrophil count decreased	10 (63)	9 (56)	1 (6)	
Cytokine release syndrome	7 (44)	-	-	
White blood cell count decreased	7 (44)	7 (44)	4 (25)	
Fatigue	4 (25)	12	-	
Lymphocyte count decreased	4 (25)	3 (19)	1 (6)	
Blood creatinine increased	4 (25)	121	=	
ICANS (immune effector cell-associated neurotoxicity)	4 (25)	2 (13)	2 (13)	
Fall	3 (19)		:=	
Diarrhea	3 (19)	72	9	
Hypoalbuminemia	2 (13)	(3)	-	
Hypocalcemia	2 (13)	10 0 0	e e	
Hyponatremia	2 (13)	140		
Muscular weakness	2 (13)	67		
Febrile neutropenia	2 (13)	2 (13)	1 (6)	
Syncope	2 (13)	2 (13)		
Pulmonary embolism	2 (13)	1 (6)	2	
Atrial fibrillation	1 (6)	1 (6)	1 (6)	
Acute kidney injury	1 (6)	1 (6)		
Cellulitis	1 (6)	1 (6)	-	
Encephalopathy ²	1 (6)	1 (6)	1 (6)	
Hyperglycemia	1 (6)	1 (6)	(2	

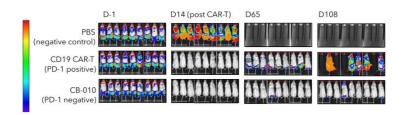


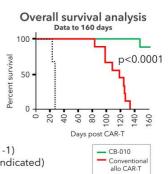
¹TEAEs are defined as adverse events (AEs) with a start date on or after the CB-010 infusion date.
2 Encephalopathy and Grade 4 ICANS events were related and occurred in same patient.
Table includes AEs with at least 2 subjects at any single dose level or at least 1 subject with a higher than Grade 3 TEAE.
As of May 4, 2023 data cutoff date

CB-010 demonstrated differentiated, long-term antitumor activity in preclinical studies

A single dose of CB-010 resulted in profound tumor regression of metastatic CD19+ tumor xenografts and led to a significantly longer antitumor response and survival

vs. conventional CD19-specific allogeneic CAR-T cells (expressing PD-1)





- \bullet NALM-6/PD-L1⁺ B-ALL tumors were established by IV engraftment for 23 days (Day -1)
- A single dose treatment was administered by IV on Day 24 (PBS or 10⁷ cells where indicated)

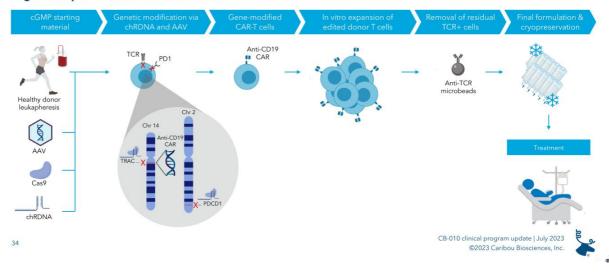
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33 Lau E, et al. Cytotherapy. 2023;25(7):750

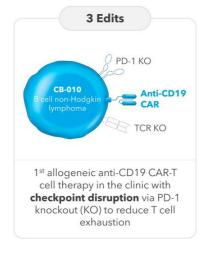


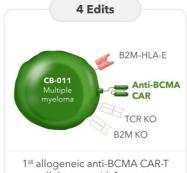
Allogeneic CAR-T cell manufacturing process overview for CB-010

Caribou's process development team created the manufacturing process and transferred it to a CMO to generate phase 1 cGMP clinical material

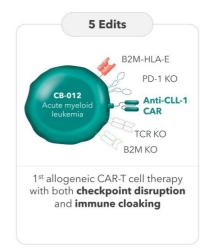


Caribou is a leader in the allogeneic CAR-T cell space with a platform of genome-edited cell therapies





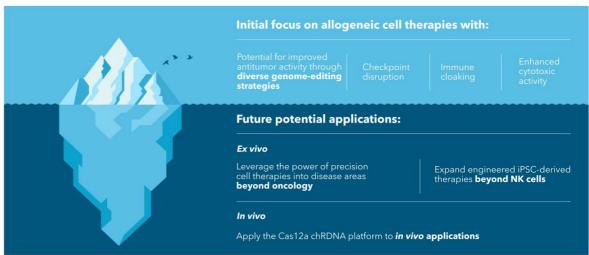
1st allogeneic anti-BCMA CAR-T cell therapy with **immune cloaking** via *B2M* KO and insertion of B2M-HLA-E fusion protein





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Caribou's technologies offer broad applications to enable transformational therapies



Experienced management team



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