UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

SCHEDULE 14A

Proxy Statement Pursuant to Section 14(a) of the Securities Exchange Act of 1934

Filed by the Registrant ☒
Filed by a Party other than the Registrant ☐

Check the appropriate box:

☐ Preliminary Proxy Statement

☐ **Confidential, for Use of the Commission Only (as permitted by Rule 14a-6(e)(2))**

☐ Definitive Proxy Statement

☒ Definitive Additional Materials

☐ Soliciting Material Pursuant to §240. 14a-12

CARIBOU BIOSCIENCES, INC.

(Name of Registrant as Specified in its Charter)

(Name of Person(s) Filing Proxy Statement, if other than the Registrant)

Payment of Filing Fee (Check all boxes that apply):

☒ No fee required.
☐ Fee paid previously with preliminary materials.
☐ Fee computed on table in exhibit required by Item 25(b) per Exchange Act Rules 14a-6(i)(1) and 0-11.

August 11, 2022

Dear fellow stockholders:

It is my pleasure and privilege to write to you in my first letter to stockholders as a publicly traded company following our successful initial public offering (IPO) in 2021.

Looking back over the last year, Caribou has undergone a transformation from a preclinical research company into a clinical-stage biopharmaceutical company. I am proud to report that over this past year, we have made incredible strides in advancing our science, strengthening our team, and achieving corporate milestones that, ultimately, help us advance our mission to develop innovative, transformative therapies for patients with devastating diseases through novel genome editing.

At the foundation of our programs is a proprietary CRISPR technology, invented by our scientists, that is fueling the development of next-generation allogeneic cell therapies for the treatment of patients with cancer. Caribou's CRISPR hybrid RNA-DNA (chRDNA) technology has established the Company as a leading player in genome editing. Using the chRDNA technology, we are developing our pipeline of four wholly owned allogeneic CAR-T and CAR-natural killer (NK) cell therapies for the treatment of patients with different types of cancer. We have advanced our first program, CB-010, into the clinic and are planning an Investigational New Drug (IND)application submission for our second program, CB-011.

As we have progressed our pipeline, we have also expanded our board of directors and leadership team with leaders who have decades of experience and valuable public company expertise to advise and drive innovation as we execute on our mission. Caribou's board of directors now includes seven independent members who bring significant and broad expertise in strategy, drug development, operations, manufacturing, commercialization, and patient need. We also have a strong scientific advisory board whose members bring significant expertise in oncology, immunology, the development of cell therapies in hematologic and solid tumors, and CRISPR genome editing.

To ensure that we remain well-positioned for growth and maturity as an organization, we strengthened our executive leadership team with key hires into new positions, including Jason O'Byrne as chief financial officer, Ruhi Khan as chief business officer, and Syed Rizvi, M.D., as chief medical officer.

To support our business plans, we raised a total of approximately $495 million in 2021 from a Series C financing, an upfront payment from a collaborator, and our successful IPO. Through these efforts, we are well-capitalized to execute on our plans for our CAR-T and CAR-NK cell platforms and advance our pipeline of promising off-the-shelf cell therapies for patients with hematologic cancers and solid tumors.

Our Product Candidates and Collaborations

CB-010, our lead cell therapy, is an allogeneic anti-CD19 CAR-T cell therapy engineered using Cas9 chRDNA technology to insert a CD19-specific CAR into the TRAC gene and knock out PD-1 to boost the persistence of antitumor activity. We believe CB-010 is the only allogeneic cell therapy in the clinic that has a PD-1 knock out. CB-010 is being evaluated in adults with relapsed or refractory B cell non-Hodgkin lymphoma (r/r B-NHL) in the ongoing open-label, multicenter Phase 1 ANTLER clinical trial. Encouraging clinical data from the ANTLER trial were presented in a poster at the European Hematology Association (EHA) 2022 Hybrid Congress. A 100% complete response (CR) rate (n=6) was observed as best response following a single dose of CB-010 at dose level 1 ($40x10^6$ CAR-T cells). CB-010 was generally well tolerated. Following the EHA poster presentation, 1 additional patient had their 6-month evaluation, which showed they maintained a CR at 6 months, resulting in an overall 50% 6-month CR rate (n=6) for cohort 1 following a single, starting dose of CB-010. Additionally, as disclosed concurrently with the EHA poster, the first patient treated with CB-010 maintained a CR at 12 months. Based on the promising initial safety data and response rate at dose level 1, the ANTLER trial is currently enrolling patients at dose level 2 ($80x10^6$ CAR-T cells).

CB-011, our second CAR-T cell program, is an allogeneic anti-BCMA CAR-T cell therapy engineered using Cas12a chRDNA technology using an approach designed to cloak the CAR-T cells from immune-mediated rejection and potentially enable more

durable antitumor activity. At this year's American Association for Cancer Research (AACR) annual meeting we presented supportive preclinical data for the clinical development of CB-011. We continue to prepare for an IND submission in Q4 2022 to support the initiation of a clinical trial evaluating CB-011 in patients with relapsed or refractory multiple myeloma (r/r MM).

Our third CAR-T cell program, CB-012,is an allogeneic anti-CLL-1 CAR-T cell therapy for the treatment of relapsed or refractory acute myeloid leukemia (r/r AML) engineered using our Cas12a chRDNA technology. CB-012 incorporates a fully human scFv targeting CLL-1 that is exclusively licensed from Memorial Sloan Kettering Cancer Center (MSKCC) to Caribou for allogeneic cell therapies. We are planning for an IND application submission for CB-012 next year.

CB-020 is our lead CAR-NK cell program and is a multiplex-edited CAR-NK cell therapy derived from genome-edited induced pluripotent stem cells (iPSCs). CB-020 is designed to address some of the fundamental challenges facing immune cell therapies in the immunosuppressive tumor microenvironment of solid tumors. Later this year, we plan to announce target selection for CB-020 and disclose multiple armoring strategies being developed for the CAR-NK cell platform.

In February of last year, we entered into a collaboration and license agreement with AbbVie Manufacturing Management Unlimited Company (AbbVie) to use Caribou's next-generation Cas12a chRDNA genome editing and cell therapy technologies to research and develop for AbbVie two new allogeneic CAR-T cell therapies directed to targets specified by AbbVie. We see this collaboration as external recognition of Caribou's differentiated next-generation CRISPR genome-editing technology.

We recognize the broad potential applications of our chRDNA technology and therefore remain open to additional collaborations as a part of our corporate development strategy.

What's Next

In the year ahead, our shareholders can look forward to pipeline updates for all our CAR-T and CAR-NK cell therapy programs, including:

- CB-010: Share additional data from cohort 1 of the ongoing ANTLER Phase 1 trial by YE 2022
- CB-011: Submit an IND application in Q4 2022 to enable us to evaluate CB-011 in patients with r/r MM
- CB-012: Submit an IND application in 2023 to enable us to evaluate CB-012 in patients with r/r AML
- CB-020: Announce target selection for CB-020 and disclose armoring strategies under development for our CAR-NK cell platform in Q4 2022

Notably, 2022 marks the 10-year anniversary of CRISPR as a genome-editing tool and of Caribou as a company in its current form. As someone who has been involved since the early days of CRISPR technology, it has been tremendously exciting and gratifying to work with my Caribou colleagues at the forefront to innovate, develop, and translate the promise of genome editing into potentially life- changing therapies for patients.

We look forward to keeping you apprised of our progress toward our mission and appreciate your continued support.

With gratitude,

Rachel Haurwitz, Ph.D.
President and Chief Executive Officer
Caribou Biosciences, Inc.