CRISPR Therapeutics Provides Update on Its Ongoing Phase 1 CARBON™ Trial of CTX110®

-Update provided for both Part A (single dose with optional re-dosing) and Part B (consolidation dosing) of the Phase 1 CARBON™ clinical trial-

-Part A data presented at the 64th American Society of Hematology (ASH) Annual Meeting and Exposition confirm that CTX110® can lead to long-term durable complete remissions (CRs) for heavily pre-treated Large B-cell Lymphoma (LBCL) patients; three patients remain in CR beyond two years-

-Emerging data from Part B demonstrate the benefits of consolidation dosing with a positively differentiated safety profile consistent with Part A-

-Based on discussions with regulatory agencies, the Company has initiated a Phase 2 single-arm potentially registrational trial with drug product manufactured using a commercial-ready process and specifications-

ZUG, Switzerland and Boston, Mass., December [12], 2022 – CRISPR Therapeutics (Nasdaq: CRSP), a biopharmaceutical company focused on creating transformative gene-based medicines for serious diseases, today provided an update for both Part A and Part B of the Company's ongoing Phase 1 CARBON trial evaluating the safety and efficacy of CTX110®, its wholly-owned allogeneic CAR T cell therapy targeting CD19+ B-cell malignancies. Part A data, presented at ASH, showed the potential for CTX110 to achieve long-term durable complete remissions (CRs) with a positively differentiated safety profile in heavily pre-treated patients, and emerging data from Part B showed an encouraging efficacy profile with several patients in ongoing CR beyond six months.

"We are excited by these results in our CARBON trial, which demonstrate the potential of a single course of allogeneic CAR T treatment to produce long-lasting complete remissions in heavily pre-treated patients with LBCL," said Samarth Kulkarni, Ph.D., Chief Executive Officer of CRISPR Therapeutics. "Furthermore, we are encouraged by the emerging data using consolidation dosing, which has the potential to further improve the efficacy profile while maintaining a positively differentiated safety profile. Based on these results, we have initiated a potentially registrational Phase 2 trial of CTX110 incorporating consolidation dosing with the hope of bringing this important therapy to patients in the near term."

CARBON Trial Overview

The Phase 1 CARBON trial is an open-label, multicenter clinical trial evaluating the safety and efficacy of CTX110 in adult patients with relapsed or refractory CD19+ B-cell malignancies who have received at least two prior lines of therapy. To date, enrollment has been focused on patients with the most aggressive disease presentations, including Diffuse Large B-cell Lymphoma (DLBCL) not otherwise specified (NOS), high-grade double- or triple-hit lymphomas, transformed follicular lymphoma, and grade 3B follicular lymphoma. In Part A of the trial, patients were infused with a single dose of CTX110 following three days of a standard lymphodepletion regimen consisting of fludarabine (30mg/m^2/day) and cyclophosphamide (500mg/m^2/day). Patients received CTX110 at doses ranging from Dose Level (DL) 1 (30 million CAR+ T cells) to DL4 (600 million CAR+ T cells), with an option to re-dose CTX110 based on clinical benefit. In Part B of the trial, patients received CTX110 at DL4 following standard lymphodepletion, as well as a consolidation dose of CTX110 at the same dose level between four and eight weeks after the initial dose for patients that demonstrate clinical benefit. The primary endpoints include safety as measured by the

incidence of dose limiting toxicities (DLTs) and overall response rate (ORR). Key secondary endpoints include complete response (CR) rate, duration of response (DOR) and overall survival (OS).

PART A

- Data presented at ASH (Poster #4629) show the potential for single infusions of CTX110 to achieve long-term durable complete remissions with a positively differentiated safety profile.

- In a heavily pre-treated patient population with relapsed or refractory (R/R) LBCL (47% with ≥3 prior lines of therapy), CTX110 at DL≥3 (n=27) resulted in an ORR of 67% and CR rate of 41%.

- Three patients remain in ongoing CR two years after treatment, and two additional patients remain in CR past one year.

- No DLTs, no Graft versus Host Disease (GvHD) of any grade, and no Grade ≥3 cytokine release syndrome (CRS) events were observed.

- These data formed the basis for Regenerative Medicine Advanced Therapy (RMAT) designation by the FDA for CTX110, granted in November 2021.

PART B

- Emerging data from Part B shows an encouraging efficacy profile with several patients in ongoing CR beyond six months.

- Clear evidence of the benefits of consolidation dosing was observed, with deepening of CRs and conversions of stable disease and partial response to ongoing CRs after the second dose.

- Safety profile remained consistent with Part A, confirming the tolerability of the consolidation regimen.

- Peak expansion and overall pharmacokinetics of CTX110 were comparable between the initial and consolidation doses.

- The Company plans to present additional Part B data at a future medical meeting.

Following discussions with regulatory agencies, the Company has initiated a single-arm, potentially registrational trial of CTX110, which incorporates consolidation dosing at DL4 and standard lymphodepletion. Dosing in this trial is expected to begin in early 2023 using drug product manufactured with a commercial-ready process and specifications.

About CTX110 and CARBON Trial

CTX110, a wholly owned program of CRISPR Therapeutics, is a healthy donor-derived gene-edited allogeneic CAR T investigational therapy targeting cluster of differentiation 19, or CD19. CTX110 is being investigated in the ongoing CARBON trial, a Phase 1 single-arm, multi-center, open label clinical trial, CARBON, is designed to assess the safety and efficacy of several dose levels of CTX110 for the treatment of relapsed or refractory B-cell malignancies. CTX110 has been granted RMAT designation by the FDA.

About CRISPR Therapeutics

CRISPR Therapeutics is a leading gene editing company focused on developing transformative gene-based medicines for serious diseases using its proprietary CRISPR/Cas9 platform. CRISPR/Cas9 is a revolutionary gene editing technology that allows for precise, directed changes to genomic DNA. CRISPR Therapeutics has established a portfolio of therapeutic programs across a broad range of disease areas including hemoglobinopathies, oncology, regenerative medicine and rare diseases. To accelerate and expand its efforts, CRISPR Therapeutics has established strategic partnerships with leading companies including Bayer, Vertex Pharmaceuticals and ViaCyte, Inc. CRISPR Therapeutics AG is headquartered in Zug, Switzerland, with its wholly-owned U.S. subsidiary, CRISPR Therapeutics, Inc., and R&D operations based in Boston, Massachusetts and San Francisco, California, and business offices in London, United Kingdom. For more information, please visit www.crisprtx.com.

CRISPR Therapeutics Forward-Looking Statement

This press release may contain a number of "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995, as amended, including statements made by Dr. Kulkarni in this press release, as well as statements regarding CRISPR Therapeutics' expectations about any or all of the following: (i) the safety, efficacy and clinical progress of its CTX110 program, including the actual or potential benefits of regulatory designations; (ii) the status of clinical trials (including, without limitation, the expected timing of data releases) and expectations regarding the data and information being presented from our CARBON clinical trial; (iii) the data that will be generated by ongoing and planned clinical trials, and the ability to use that data for the design and initiation of further clinical trials; and (iv) the therapeutic value, development, and commercial potential of CRISPR/Cas9 gene editing technologies and therapies, including as compared to other therapies. Without limiting the foregoing, the words "believes," "anticipates," "plans," "expects" and similar expressions are intended to identify forward-looking statements. You are cautioned that forward-looking statements are inherently uncertain. Although CRISPR Therapeutics believes that such statements are based on reasonable assumptions within the bounds of its knowledge of its business and operations, forward-looking statements are neither promises nor guarantees and they are necessarily subject to a high degree of uncertainty and risk. Actual performance and results may differ materially from those projected or suggested in the forward-looking statements due to various risks and uncertainties. These risks and uncertainties include, among others: the potential for initial and preliminary data from any clinical trial and initial data from a limited number of patients not to be indicative of final trial results; the potential that clinical trial results may not be favorable; potential impacts due to the coronavirus pandemic, such as the timing and progress of clinical trials; that future competitive or other market factors may adversely affect the commercial potential for CRISPR Therapeutics' product candidates; uncertainties regarding the intellectual property protection for CRISPR Therapeutics' technology and intellectual property belonging to third parties, and the outcome of proceedings (such as an interference, an opposition or a similar proceeding) involving all or any portion of such intellectual property; and those risks and uncertainties described under the heading "Risk Factors" in CRISPR Therapeutics' most recent annual report on Form 10-K, quarterly report on Form 10-Q and in any other subsequent filings made by CRISPR Therapeutics with the U.S. Securities and Exchange Commission, which are available on the SEC's website at www.sec.gov. Existing and prospective investors are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date they are made. CRISPR Therapeutics disclaims any obligation or undertaking to update or revise any forward-looking statements contained in this press release, other than to the extent required by law.

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