CRISPR Therapeutics Provides Business Update and Reports First Quarter 2022 Financial Results

- More than 75 patients dosed with CTX001™ across CLIMB-Thal-111 and CLIMB-SCD-121 to date; planned global regulatory submissions on track for late 2022-

-Initiated two new CTX001 Phase 3 clinical trials in pediatric patients with TDT and SCD-

-Enrollment and dosing ongoing for CTX110™, targeting CD19+ B-cell malignancies; additional data expected to report in 2022-

-Updates from ongoing CTX120™ and CTX130™ clinical trials anticipated in 1H2022-

ZUG, Switzerland and CAMBRIDGE, Mass., May 9, 2022 – CRISPR Therapeutics (Nasdaq: CRSP), a biopharmaceutical company focused on creating transformative gene-based medicines for serious diseases, today reported financial results for the first quarter ended March 31, 2022.

"I am pleased with the ongoing momentum across our broad portfolio of innovative gene therapy candidates and anticipate important company milestones in 2022. Alongside our partner Vertex, we remain on track to submit global regulatory filings for CTX001 in late 2022 and have dosed more than 75 patients across both trials to date. We have also initiated two new Phase 3 trials of CTX001 in pediatric patients with TDT and SCD," said Samarth Kulkarni, Ph.D., Chief Executive Officer of CRISPR Therapeutics. "We are also advancing our wholly-owned immuno-oncology pipeline, with new updates expected this year. In addition, enrollment and dosing continues in the Phase 1 clinical trial of VCTX210 for T1D with our partner, ViaCyte. We believe we are well positioned and well capitalized to advance our pipeline and platform to develop transformative medicines for patients suffering from serious diseases."

Recent Highlights and Outlook

- **Beta Thalassemia and Sickle Cell Disease**
    - Following the completion of enrollment in the ongoing Phase 3 clinical trials for CTX001 in transfusion-dependent beta thalassemia (TDT) and severe sickle cell disease (SCD), announced last quarter, more than 75 patients across both trials have been dosed to date. CRISPR Therapeutics and Vertex anticipate presenting updated data from the clinical trials, with more patients and longer follow-up, at medical conferences in 2022.
    - CRISPR Therapeutics and Vertex have initiated two new Phase 3 studies of CTX001 in pediatric patients with TDT and SCD.
    - The companies anticipate submitting global regulatory filings for CTX001 in TDT and SCD in late 2022.
- **Immuno-Oncology Programs**

- CRISPR Therapeutics continues to enroll and dose patients in the pivotal trial of CTX110, its wholly-owned allogeneic chimeric antigen receptor T cell (CAR-T) investigational therapy targeting CD19+ B-cell malignancies. The Company expects to report additional data in 2022.

- CRISPR Therapeutics' Phase 1 clinical trials for CTX-120, its wholly-owned allogeneic CAR-T investigational therapy targeting B-cell maturation antigen for the treatment of relapsed or refractory multiple myeloma, and CTX130, its wholly-owned allogeneic CAR-T investigational therapy targeting CD70 for the treatment of both solid tumors and certain hematologic malignancies, are ongoing. Each trial is assessing safety and efficacy of several dose levels. The Company expects to provide updates from each trial in the first half of 2022.

- **Regenerative Medicine and *In Vivo* Programs**

  - Enrollment and dosing are ongoing in the Phase 1 clinical trial of VCTX210 for the treatment of type 1 diabetes (T1D). VCTX210 is an investigational, allogeneic, gene-edited, stem cell-derived product developed in collaboration by applying CRISPR Therapeutics' gene-editing technology to ViaCyte's proprietary stem cell capabilities for the generation of pancreatic cells designed to evade recognition by the immune system. This immune-evasive cell replacement therapy is designed to enable patients to produce their own insulin.

  - Based upon ongoing progress with its *in vivo* approaches for liver gene editing utilizing both viral and non-viral delivery vehicles, CRISPR Therapeutics continues to expect to move multiple programs utilizing *in vivo* approaches into the clinic in the next 18 to 24 months.

- **Other Corporate Matters**

  - In April, CRISPR Therapeutics proposed to elect Maria Fardis, Ph.D., MBA, to its Board of Directors at the Company's upcoming annual general meeting of shareholders to be held later this year. The Company believes her extensive leadership in scaling companies and bringing novel therapies to patients will be an invaluable asset to CRISPR Therapeutics.

  - In April, CRISPR Therapeutics and Nkarta, Inc. presented preclinical data focused on its natural killer cell platform and pipeline at the American Association for Cancer Research (AACR) Annual Meeting 2022. The data shows that CD70/CISH/CBLB triple KO CD70-CAR NK cells demonstrated enhanced anti-tumor activity against relevant solid tumor cell lines and provided greater resistance to tumor microenvironment inhibition. These data support the further exploration of CD70/CISH/CBLB triple gene knockout CD70 CAR NK cells for clinical application.

- In April, CRISPR Therapeutics was awarded the 2022 Facility of the Year Category Award (FOYA) for Innovation by the International Society for Pharmaceutical Engineering (ISPE) for its state-of-the art manufacturing facility in Framingham, Massachusetts, USA. ISPE's Facility of the Year Awards program is the premier global awards program recognizing innovation and creativity in the pharmaceutical and biotechnology manufacturing industries. Projects selected for recognition set the standard by demonstrating excellence in facility design, construction, and operations.

First Quarter 2022 Financial Results

- **Cash Position:** Cash, cash equivalents and marketable securities were $2,221.3 million as of March 31, 2022, compared to $2,379.1 million as of December 31, 2021. The decrease in cash of $157.8 million was primarily driven by cash used in operating activities to support ongoing research and development of the Company's clinical and pre-clinical programs.

- **Revenue:** Total collaboration revenue was $0.2 million for the first quarter of 2022 and 2021.

- **R&D Expenses:** R&D expenses were $118.2 million for the first quarter of 2022, compared to $70.6 million for the first quarter of 2021. The increase in expense was driven by development activities supporting the advancement of our wholly-owned immuno-oncology programs, as well as expenses related to our new U.S. research and development headquarters.

- **G&A Expenses:** General and administrative expenses were $28.0 million for the first quarter of 2022, compared to $24.5 million for the first quarter of 2021. The increase in general and administrative expenses was primarily driven by headcount-related expense.

- **Collaboration Expense:** Collaboration expense, net, was $30.6 million for the first quarter of 2022, compared to $19.9 million for the first quarter of 2021. The increase in collaboration expense, net, was primarily driven by increased pre-commercial and manufacturing scale-up costs associated with our hemoglobinopathies programs under our collaboration with Vertex.

- **Net Loss:** Net loss was $179.2 million for the first quarter of 2022, compared to a net loss of $113.2 million for the first quarter of 2021.

About CTX001

CTX001 is an investigational, autologous, *ex vivo* CRISPR/Cas9 gene-edited therapy that is being evaluated for patients suffering from TDT or severe SCD, in which a patient's hematopoietic stem cells are edited to produce high levels of fetal hemoglobin (HbF; hemoglobin F) in red blood cells. HbF is a form of the oxygen-carrying hemoglobin that is naturally present at birth, which then switches to the adult form of hemoglobin. The elevation of HbF by CTX001 has the potential to alleviate or eliminate transfusion requirements for patients with TDT and reduce or eliminate painful and debilitating sickle crises for patients with SCD. Earlier results from these ongoing trials were published as a Brief Report in *The New England Journal of Medicin*e in January of 2021.

Based on progress in this program to date, CTX001 has been granted Regenerative Medicine Advanced Therapy (RMAT), Fast Track, Orphan Drug, and Rare Pediatric Disease designations from the U.S. Food and Drug Administration (FDA) for both TDT and SCD. CTX001 has also been granted Orphan Drug Designation from the European Commission, as well as Priority Medicines (PRIME) designation from the European Medicines Agency (EMA), for both TDT and SCD.

Among gene-editing approaches being investigated/evaluated for TDT and SCD, CTX001 is the furthest advanced in clinical development.

About the CRISPR-Vertex Collaboration
Vertex and CRISPR Therapeutics entered into a strategic research collaboration in 2015 focused on the use of CRISPR/Cas9 to discover and develop potential new treatments aimed at the underlying genetic causes of human disease. CTX001 represents the first potential treatment to emerge from the joint research program. Under a recently amended collaboration agreement, Vertex will lead global development, manufacturing and commercialization of CTX001 and split program costs and profits worldwide 60/40 with CRISPR Therapeutics.

About CLIMB-111
The ongoing Phase 1/2 open-label trial, CLIMB-Thal-111, is designed to assess the safety and efficacy of a single dose of CTX001 in patients ages 12 to 35 with TDT. The trial will enroll up to 45 patients and follow patients for approximately two years after infusion. Each patient will be asked to participate in a long-term follow-up trial.

About CLIMB-121
The ongoing Phase 1/2 open-label trial, CLIMB-SCD-121, is designed to assess the safety and efficacy of a single dose of CTX001 in patients ages 12 to 35 with severe SCD. The trial will enroll up to 45 patients and follow patients for approximately two years after infusion. Each patient will be asked to participate in a long-term follow-up trial.

About CLIMB-131
This is a long-term, open-label trial to evaluate the safety and efficacy of CTX001 in patients who received CTX001 in CLIMB-111 or CLIMB-121. The trial is designed to follow participants for up to 15 years after CTX001 infusion.

About CTX110
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. CTX110 has been granted Regenerative Medicine Advanced Therapy designation from the FDA.

About CARBON

The ongoing 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.

About CTX120

CTX120, a wholly-owned program of CRISPR Therapeutics, is a healthy donor-derived gene-edited allogeneic CAR-T investigational therapy targeting B-cell maturation antigen, or BCMA. CTX120 is being investigated in an ongoing Phase 1 single-arm, multi-center, open-label clinical trial designed to assess the safety and efficacy of several dose levels of CTX120 for the treatment of relapsed or refractory multiple myeloma. CTX120 has been granted Orphan Drug designation from the FDA.

About CTX130

CTX130, a wholly-owned program of CRISPR Therapeutics, is a healthy donor-derived gene-edited allogeneic CAR-T investigational therapy targeting cluster of differentiation 70, or CD70, an antigen expressed on various solid tumors and hematologic malignancies. CTX130 is being developed for the treatment of both solid tumors, such as renal cell carcinoma, and T-cell and B-cell hematologic malignancies. CTX130 is being investigated in two ongoing independent Phase 1, single-arm, multi-center, open-label clinical trials that are designed to assess the safety and efficacy of several dose levels of CTX130 for the treatment of relapsed or refractory renal cell carcinoma and various subtypes of lymphoma, respectively. CTX120 has been granted Orphan Drug designation for the treatment of T-cell lymphoma from the FDA.

About VCTX210

VCTX210 is an investigational, allogeneic, gene-edited, immune-evasive, stem cell-derived therapy for the treatment of type 1 diabetes (T1D). VCTX210 is being developed under a co-development and co-commercialization agreement between CRISPR Therapeutics and ViaCyte, Inc.

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 collaborations 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 Cambridge, Massachusetts, and business offices in San Francisco, California and 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 CRISPR Therapeutics' various clinical and preclinical programs; (ii) the status of clinical trials (including, without limitation, expectations regarding

the expected timing of data releases, as well as completion of clinical trials) and development timelines for CRISPR Therapeutics' product candidates, including the timing of regulatory submissions; (iii) its in vivo programs; (iv) the actual or potential benefits of regulatory designations; (v) the intellectual property coverage and positions of CRISPR Therapeutics, its licensors and third parties as well as the status and potential outcome of proceedings involving any such intellectual property; (vi) the sufficiency of CRISPR Therapeutics' cash resources; (vii) the expected benefits of CRISPR Therapeutics' collaborations; (viii) Dr. Fardis' election to the Board of Directors, and (ix) the therapeutic value, development, and commercial potential of CRISPR/Cas9 gene editing technologies and 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; that one or more of CRISPR Therapeutics' internal or external product candidate programs will not proceed as planned for technical, scientific or commercial reasons; that future competitive or other market factors may adversely affect the commercial potential for CRISPR Therapeutics' product candidates; uncertainties inherent in the initiation and completion of preclinical studies for CRISPR Therapeutics' product candidates (including, without limitation, availability and timing of results and whether such results will be predictive of future results of the future trials); uncertainties about regulatory approvals to conduct trials or to market products; the potential impacts due to the coronavirus pandemic such as (x) delays in regulatory review, manufacturing and supply chain interruptions, adverse effects on healthcare systems and disruption of the global economy; (y) the timing and progress of clinical trials, preclinical studies and other research and development activities; and (z) the overall impact of the coronavirus pandemic on its business, financial condition and results of operations; 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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CRISPR Therapeutics AG

Condensed Consolidated Statements of Operations

(Unaudited, In thousands except share data and per share data)

	Three Months Ended March 31,	
	2022	2021
Revenue:		
Collaboration revenue	$ 178	$ 202
Grant revenue	762	337
Total revenue	$ 940	$ 539
Operating expenses:		
Research and development	118,245	70,620
General and administrative	28,021	24,517
Collaboration expense, net	30,646	19,945
Total operating expenses	176,912	115,082
Total operating expenses	(175,972)	(114,543)
Total other income, net	363	1,955
Net loss before income taxes	(175,609)	(112,588)
Provision for income taxes	(3,608)	(575)
Net loss	(179,217)	(113,163)
Foreign currency translation adjustment	(27)	5
Unrealized loss on marketable securities	(11,799)	(383)
Comprehensive loss	$ (191,043)	$ (113,541)
Net loss per common share — basic	$ (2.32)	$ (1.51)
Basic weighted-average common shares outstanding	77,098,319	75,005,187
Net loss per common share — diluted	$ (2.32)	$ (1.51)
Diluted weighted-average common shares outstanding	77,098,319	75,005,187

CRISPR Therapeutics AG

Condensed Consolidated Balance Sheets Data

(Unaudited, in thousands)

	As of	
	March 31, 2022	December 31, 2021
Cash	$ 683,906	$ 923,031
Marketable securities	1,537,355	1,456,098
Working capital	2,146,919	2,297,630
Total assets	2,606,175	2,751,877
Total shareholders' equity	2,244,916	2,399,460