NEWS RELEASE

SQZ Biotechnologies Presents Preclinical SQZ® TIL Data Supporting Potential Ability of mRNA-Driven IL-2 and IL-12 Expression to Eliminate Need for Toxic Preconditioning and Systemic IL-2 Administration for Certain T Cell Therapies

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TILs Engineered to Temporarily Express Membrane-Bound IL-2 and IL-12 Could Potentially Improve TIL Function While Simultaneously Eliminating the Need for Toxic Preconditioning and Cytokine Administration

Data Presented at ESMO 2022 Show SQZ ® TILs Enhanced Proliferation In Vitro and In Vivo, Increased Tumor Cell Killing, and Upregulated Markers Associated with T Cell Memory

SQZ ® TILs May Enable Repeat Dosing and Early Line Use of TIL Therapy in Oncology

WATERTOWN, Mass.--(BUSINESS WIRE)-- **SQZ Biotechnologies Company** (NYSE: SQZ), focused on unlocking the full potential of cell therapies for multiple therapeutic areas, today presented preclinical data supporting that tumor infiltrating lymphocytes (TILs) engineered with membrane-bound cytokines IL-2 (mbIL-2) and IL-12 (mbIL-12) may eliminate the need for the high-dose, systemic IL-2 and lymphodepleting preconditioning used with current TIL therapies. SQZ® TILs showed the ability to induce desirable cytokine signaling for more than 48 hours, which is comparable to the duration of exogenous IL-2 support in current TIL therapies. SQZ® TILs also demonstrated improved killing of donor-matched tumor cells, upregulated markers associated with central memory T cells, and persistence in vivo. The data was presented today at the European Society for Medical Oncology (ESMO) Congress 2022.

“TIL therapies have shown exciting clinical results in solid tumors, but to overcome engraftment and persistence challenges they also require lymphodepletion and systemic IL-2, which are toxic to patients and prevent repeat dosing,” said Jonathan Gilbert, Ph.D., Vice President of Exploratory Research at SQZ Biotechnologies. “By providing cytokine support on the surface of the cell, SQZ® TILs may simultaneously eliminate the need for these toxic co-treatments and improve T cell function. Together this could potentially increase potency while also moving TILs to an outpatient procedure that allows repeat dosing and combination therapies.”

The SQZ® TIL platform draws from the company's mbIL-2 and mbIL-12 constructs used in its enhanced Antigen Presenting Cell (eAPC) clinical trial. Both approaches are designed to take advantage of transient expression of membrane-bound cytokines so that potent cytokines such as IL-12 can be expressed without systemic toxicities. Additional TIL engineering with membrane-bound IL-7 (mbIL-7) and BCL-2, an anti-apoptotic factor, may further enhance the abilities of SQZ® TILs to engraft without preconditioning.

Major Findings from Preclinical Research

Poster #761: Tumor Infiltrating Lymphocytes Expressing Membrane-Bound IL-2 and IL-12 Exhibit Enhanced Proliferation, Function, and Persistence Without Requiring Exogenous IL-2 Support

- Cytokine Expression and Function: TILs engineered with mbIL-2 and mbIL-12 induced high levels of expression and supported >70% viability in the absence of external cytokine support for 5 days, a time greater than IL-2 is typically dosed in the clinic after TIL infusion. The membrane-bound cytokines produced an almost 4-fold expansion in vitro, which was comparable to unmodified TILs cultured in IL-2 containing media
- Tumor Cell Killing: TILs from primary solid tumors engineered with mbIL-2 and mbIL-12 and subsequently cultured with donor-matched tumor cell lines showed 3.5-fold higher IFN-y release than the current clinical standard of unmodified TILs with exogenous IL-2, as well as increased tumor killing as measured by staining of apoptotic cells
- Memory T Cell Reprogramming: TILs engineered to express mbIL-2 and mbIL-12 upregulated CD62L, a classical marker of central memory T cells (>80% positive, vs <20% positive for unmodified TILs at day 6). CD62L remains upregulated even after cytokine expression has diminished, suggesting a potential reprogramming of the TILs to a more memory-like state, which could positively impact T cell survival and clinical benefit
- In Vivo Survival and Phenotype: mbIL-2 and mbIL-2/12 TILs adoptively transferred into a mouse model each showed more than 200% greater cell persistence in vivo as compared to unmodified TILs, and mbIL-12 drove a 3.5-fold enrichment in CD62L expression in vivo out to at least day 5 post-transfer
- Promising Targets: TILs engineered with mbIL-7 and BCL2, which can support cell survival, demonstrated a strong advantage in the absence of exogenous cytokine support and could serve as potential future TIL enhancers

About SQZ Biotechnologies

SQZ Biotechnologies is a clinical-stage biotechnology company focused on unlocking the full potential of cell therapies to benefit patients with cancer, autoimmune and infectious diseases. The company's proprietary Cell Squeeze® technology offers the unique ability to deliver multiple biological materials into many patient cell types to engineer what we believe can be a broad range of potential therapeutics. Our goal is to create well-tolerated cell therapies that can provide therapeutic benefit for patients and improve the patient experience over existing cell therapy approaches. With accelerated production timelines under 24 hours and the opportunity to eliminate

preconditioning and lengthy hospital stays, our approach could change the way people think about cell therapies. The company's first therapeutic applications seek to generate target-specific immune responses, both in activation for the treatment of solid tumors and in immune tolerance for the treatment of unwanted immune reactions and autoimmune diseases. For more information, please visit **www.sqzbiotech.com**.

Forward Looking Statement

This press release contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. All statements contained that do not relate to matters of historical fact should be considered forward-looking statements, including without limitation statements relating to events and presentations, platform and clinical development, product candidates, preclinical and clinical activities, progress and outcomes, development plans, clinical safety and efficacy results, and therapeutic potential. These forward-looking statements are based on management's current expectations. Actual results could differ from those projected in any forward-looking statements due to several risk factors. Such factors include, among others, risks and uncertainties related to our limited operating history; our significant losses incurred since inception and expectation to incur significant additional losses for the foreseeable future; the development of our initial product candidates, upon which our business is highly dependent; the impact of the COVID-19 pandemic on our operations and clinical activities; our need for additional funding and our cash runway; the lengthy, expensive, and uncertain process of clinical drug development, including uncertain outcomes of clinical trials and potential delays in regulatory approval; our ability to maintain our relationships with our third party vendors; and protection of our proprietary technology, intellectual property portfolio and the confidentiality of our trade secrets. These and other important factors discussed under the caption "Risk Factors" in our Annual Report on Form 10-K and other filings with the U.S. Securities and Exchange Commission could cause actual results to differ materially from those indicated by the forward-looking statements. Any forward-looking statements represent management's estimates as of this date and SQZ undertakes no duty to update these forward-looking statements, whether as a result of new information, the occurrence of current events, or otherwise, unless required by law.

Certain information contained in this press release relates to or is based on studies, publications, surveys and other data obtained from third-party sources and our own internal estimates and research. While we believe these third-party sources to be reliable as of the date of this press release, we have not independently verified, and we make no representation as to the adequacy, fairness, accuracy, or completeness of any information obtained from third-party sources.

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