Ziopharm ONCOLOGY

Second Quarter 2021 Corporate Update

August 9, 2021

Forward Looking Statements

This presentation and accompanying commentary contain certain forward-looking information about Ziopharm Oncology, Inc. that are intended to be covered by the safe harbor for "forward-looking statements" provided by the Private Securities Litigation Reform Act of 1995, as amended. Forward-looking statements are statements that are not historical facts, and in some cases can be identified by terms such as "may," "will," "could," "expects," "plans," "anticipates," and "believes." These statements include, but are not limited to, statements regarding the Company's business and strategic plans, the availability of cash resources, the progress and timing of the development of Ziopharm's research and development programs, including the design of its clinical trials and the timing for the initiation and completion, and the data readouts for, its clinical trials, and the anticipated benefits and market size of Ziopharm's products. Although Ziopharm's management team believes the expectations reflected in such forward-looking statements are reasonable, investors are cautioned that forward-looking information and statements are subject to various risks and uncertainties, many of which are difficult to predict and generally beyond the control of Ziopharm, that could cause actual results and developments to differ materially from those expressed in, or implied or projected by, the forward-looking information and statements. These risks and uncertainties include among other things, changes in our operating plans that may impact our cash expenditures; the uncertainties inherent in research and development, future clinical data and analysis, including whether any of Ziopharm's product candidates will advance further in the preclinical research or clinical trial process, including receiving or maintaining clearance from the U.S. Food and Drug Administration or equivalent foreign regulatory agencies to conduct clinical trials and whether and when, if at all, they will receive final approval from the U.S. FDA or equivalent foreign regulatory agencies and for which indication; the strength and enforceability of Ziopharm's intellectual property rights; competition from other pharmaceutical and biotechnology companies as well as risk factors discussed or identified in the public filings with the Securities and Exchange Commission made by Ziopharm, including those risks and uncertainties listed in Ziopharm's most recent Form 10-Q and Form 10-K. Readers are cautioned not to place undue reliance on these forward-looking statements that speak only as of the date of the presentation, and we do not undertake any obligation to revise and disseminate forward-looking statements to reflect events or circumstances after the date hereof, or to reflect the occurrence of or non-occurrence of any events.

Clinical Stage Cell Therapy Company with Suite of Promising Technologies

Strategy focused on delivering shareholder value

Mission

We develop innovative T cell-based therapies for the treatment of hematological and solid tumor cancers

Ziopharm Oncology Today

Long-Term Vision

Distinctive commercial and clinical portfolio of immunotherapies transforming patient lives, supported by a growing body of compelling data

People, capabilities and assets to deliver

Unprecedented Transformation Since the Beginning of the Year

From…	…To
Scientifically-directed strategy	Clinical development and operationally directed strategy
Broad portfolio including high complexity programs in small market opportunities	Focused, capital efficient portfolio addressing high unmet need, large patient populations, and significant market sizes
Unclear capital outlook and runway	Extended runway into Q4 2022 with smart venture debt vehicle; runway now well beyond anticipated data, value inflection points
Shareholder / Company disconnect and mis-alignment between Board, management	Refreshed Board with significant shareholder voice guiding management; expect to announce new CEO in near future
No Company-directed TCR-T clinical work ongoing	FDA cleared IND for Phase I/II Library trial, with manufacturing preparation and patient pre-screening underway
Houston cGMP Facility construction in process	cGMP facility fully commissioned and validation with process qualification work ongoing
No clinical work initiated by JV Partner Eden BioCell for CD19 RPM CAR-T Program	Cleared IND with two patients treated in Taiwan; no serious adverse events noted; further process development needed; external interest in the program

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Scientific Foundation Drives Confidence in our Value and Outlook

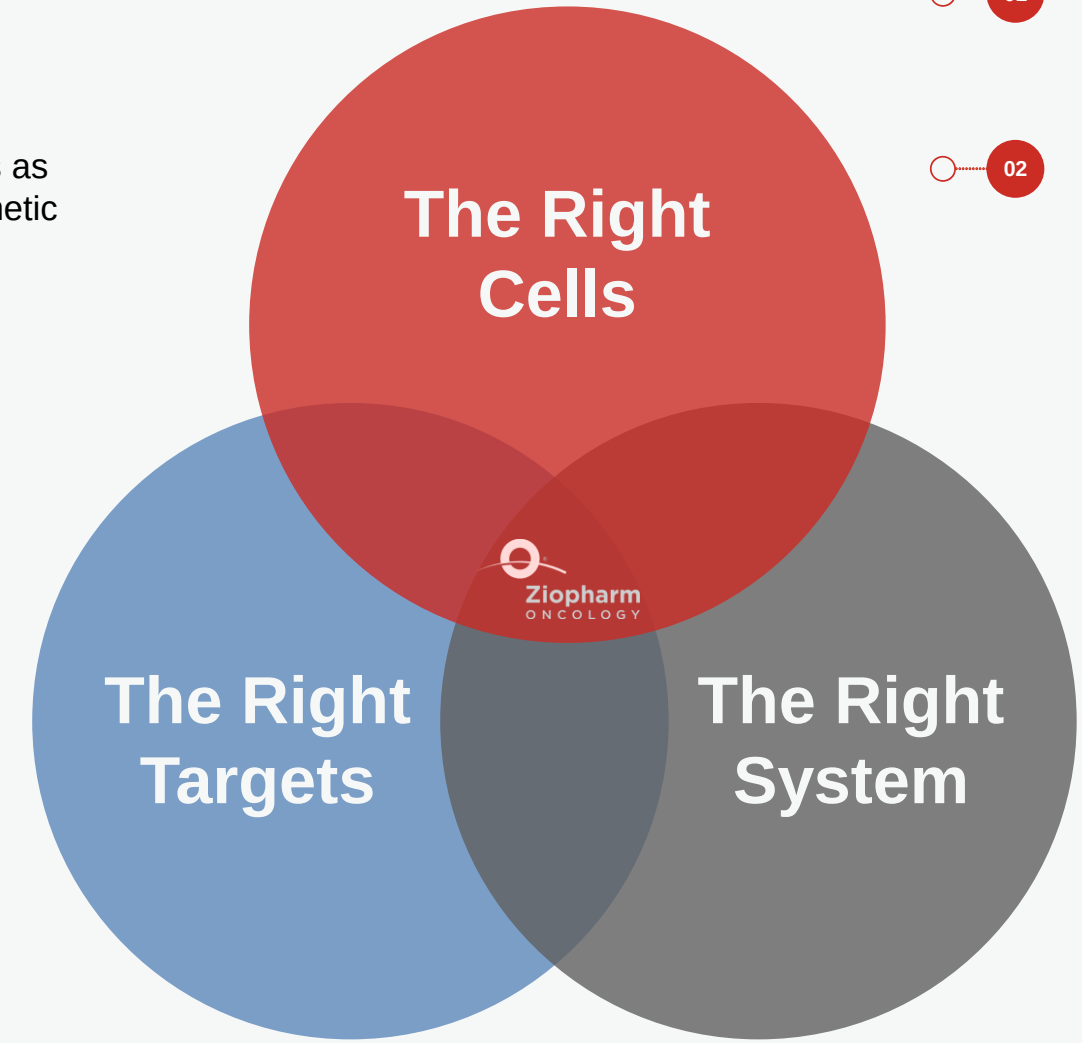
01 Germline or public antigens not present in the vast majority of epithelial cancers

02 Neoantigens are desired targets as they arise from foundational genetic mutations in cancer

03 **Ziopharm** TCRs target shared neoantigens in hotspots and neoantigens unique to patients

04 **Ziopharm** addresses heterogeneity of antigen expression between patients and within tumors

05 **Ziopharm** has exclusive rights to a growing set of Library hotspot-specific TCRs for products engineered by transposon-mediated gene transfer, and a cleared IND for Phase I/II clinical work



01 **Ziopharm** immuno-biology is based on the use of “young” peripheral blood T cells

02 Exhausted T cells isolated from tumor (TILs) have limited efficacy for most solid tumors

01 Viral gene transfer is costly, cumbersome and complex

02 **Ziopharm** gene transfer utilizes the best-in-class non-viral *Sleeping Beauty* transposon system

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Recent Progress and Highlights

Business Updates

01 **Closed $50M venture debt facility with Silicon Valley Bank**

$25M immediate drawdown, extending runway into Q4 2022

Provides time to generate and assess clinical data from TCR-T Library trial

02 **Cash balance of approximately $76.7 million as of June 30, 2021***

03 **CEO Announcement in near future**

TCR-T Library Clinical Program

01 **Remain on track to dose patients in H2 2021 – anticipate in Q4 2021**

Currently pre-screening patients

02 **Completed critical steps to support opening manufacturing facility in Houston**

Commissioning of the cGMP clinical production unit and aseptic process validation successfully completed

03 **Compelling preclinical data presented at AACR**

Provides confidence in TCR technology

04 **Qualifying additional TCRs**

Plan to amend IND in H2 2021 to include these additional TCRs

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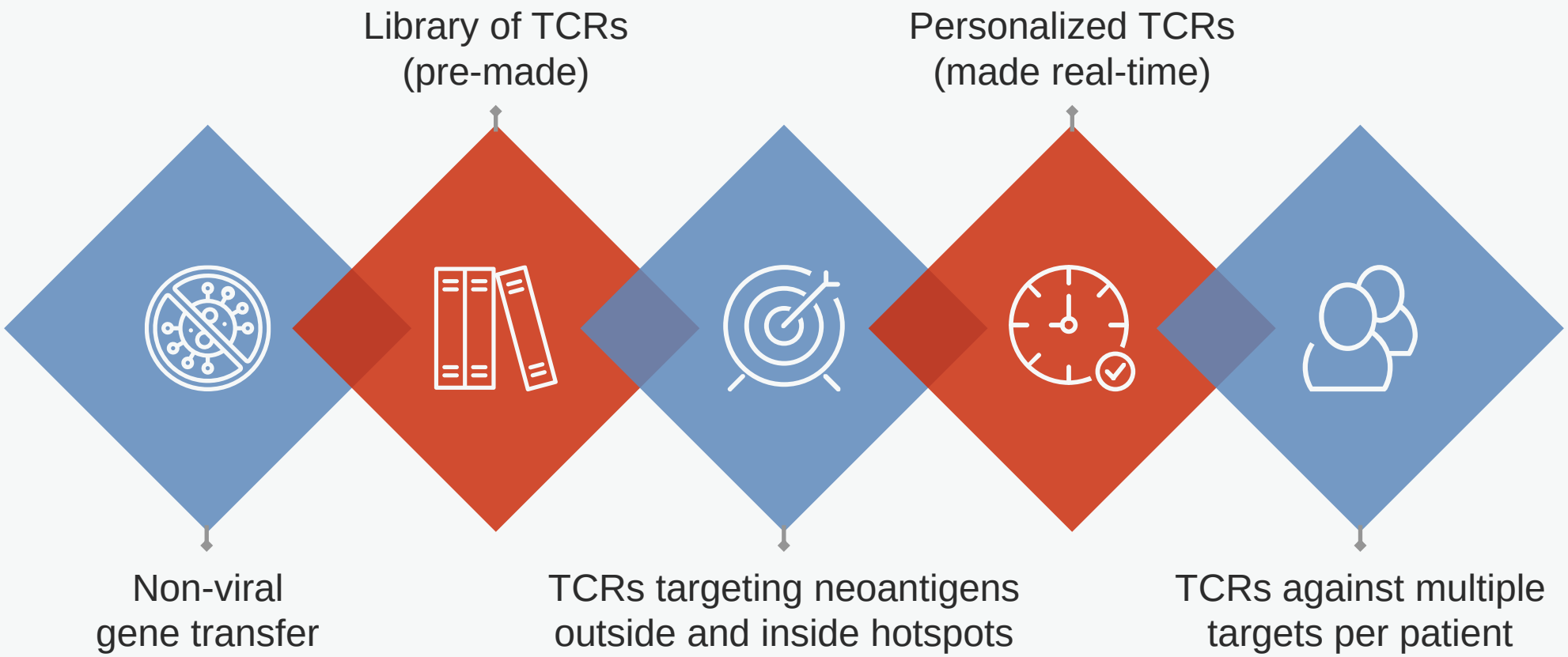
*Does not include the $25M drawdown from Silicon Valley Bank debt facility, which was closed subsequent to the end of the second quarter. In addition, the Company has approximately $1.8 million at MD Anderson from prepayment for programs to be conducted by the Company as of 6/30/2021.

Ziopharm's TCR-T Programs



Ziopharm's complementary and unique suite of technologies

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CD19 RPM CAR-T Trial Conducted by Eden BioCell

Phase I Clinical Program in Taiwan

Program Update:

- 50-50 joint venture, 100% financially supported by TriArm Therapeutics in Taiwan
- 2 patients dosed and evaluated since initiation in March 2021
  - No serious adverse safety events reported
  - Non-viral *Sleeping Beauty* gene transfer is effective in genetically modifying autologous T cells
  - Patients infused 2 days after gene transfer, shortening the turnaround time and demonstrating an advantage over viral methods
- Laboratory data identified need for further process development work to optimize and refine manufacturing process before dosing additional patients; may take up to 12 months
- Several external parties have expressed interest in the program
  - The Board will consider all options carefully, in order to maximize shareholder value
- Reminder: TCR and CAR-T processes are intrinsically different and follow separate process development pathways; no read through from CAR-T to TCR-T work

Focused Pipeline of Oncology Innovation in Cell Therapy

Asset	Indication	Pre-Clinical	Phase 1	Phase 2
Sleeping Beauty TCR-T targeting neoantigens	***Initial Solid Tumor Indications**** Cholangiocarcinoma, Colorectal, Endometrial Lung, Ovarian, Pancreatic	**Library TCR-T** (“hotspots”) (Ziopharm sponsor at MD Anderson)		
		Next Gen TCR-T (mbIL15)		
		Personalized TCR-T (NCI sponsor)		
		Personalized TCR-T		
		Discovery (undisclosed targets and modalities)		
Sleeping Beauty CAR-T	Leukemia/lymphoma	**RPM CD19 with mbIL15** (Eden BioCell sponsor, Taiwan)		

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NIH NATIONAL CANCER INSTITUTE

Eden BioCell

*Initial indications in cleared IND, plan to expand into additional indications

2021/2022 Clinical Milestones

H1 2021	H2 2021	H1 2022	H2 2022
Library TCR-T Program Ph 1/2 IND Clearance	**Library TCR-T Program** Ph 1/2 Patient Initiation (Q4)	**Library TCR-T Program** **Initial Data and** Additional Site(s)	**Next Gen (mbIL15)** Ph 1 IND Clearance
	Library TCR-T Program IND Amendment Additional TCRs		
CD19 CAR-T RPM Autologous (Taiwan) Ph 1 Patient Initiation	**CD19 CAR-T RPM Autologous (Taiwan)** Preliminary Ph 1 Data	**CD19 CAR-T RPM** Further Updates as Appropriate	
IL-12 Seeking Partnership			
CD19 CAR-T RPM Allogeneic (US) *Trial Closed*	**Personalized TCR-T Program (NCI)** Ph 2 Potential Updates		

NCI clinical operations are not under control of Ziopharm;
delays have been communicated based on matters unrelated to Ziopharm

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