Ziopharm ONCOLOGY

Corporate Update and Q4/FY 2020 Highlights

February 25, 2021

Forward Looking Statements

This presentation contains certain forward-looking information about Ziopharm Oncology, Inc. that is 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 our business and strategic plans, changes to our organization, the availability of cash resources, the progress and timing of our research and development programs, including the anticipated dates for initiation, patient dosing and data readouts of our clinical trials, the potential market and treatment opportunity of our products, expectations regarding partnership opportunities for our programs and the number of patients in our clinical trials. 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 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 quarterly report on Form 10-Q for the quarter ended September 30, 2019 filed by Ziopharm with the Securities and Exchange Commission. 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.

Today's Update and Discussion

Leadership Transition

1

Perspectives from **Dr. Laurence Cooper, Executive Chairman James Huang and Interim CEO Heidi Hagen**

Strategy and Financial Summary

2

Strategic portfolio prioritization guiding **disciplined capital allocation**

Moving Programs Forward

3

Meaningful **progress on our cell therapy programs**

Milestones and R&D Day

4

Poised for critical **2021 milestones and events**

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LAURENCE COOPER, M.D., Ph.D.

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JAMES HUANG

Perspectives from our Executive Chairman

- View on Leadership Transition
- Ziopharm Today
- My Thoughts on the Technology

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HEIDI HAGEN

Interim Chief Executive Officer

30 Years Experience in Biotechnology

Extensive Immuno-Oncology Focused Gene and Cell Therapy Expertise

Innovator in Cell Therapy Infrastructure Scalability, Software and Commercialization

Deep Knowledge of Manufacturing and Cell Therapy Technical Operations

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Allocating Capital in a Disciplined Manner and Based on Strategy

Financial Snapshot

$115.1 million in cash and cash equivalents as of 12/31/20

$8.1 million at MD Anderson from **prepayment for programs to be conducted by the Company** as of 12/31/20

Sufficient to fund planned operations and **execute our strategy into late second quarter of 2022**

Seeking avenues to **slow cash burn and identify sources of non-dilutive capital** enabled by clear strategic focus

Capital Allocation Priorities

01 TCR-T program advancement with initial focus on ZIOP library clinical study

- Continued buildout of operational capabilities (Houston)
- Operationalizing clinical program
- Hunting for additional TCRs

02 CAR-T resourcing to demonstrate initial clinical benefit of RPM

Support Eden Biocell Asia clinical program (CD19)

03 We expect to reduce the amount of capital allocated to our Controlled IL-12 program in 2021 and to continue to explore partnerships to support further development

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Library “Off-the-shelf” And Personalized T Cell Therapies

CLEARED

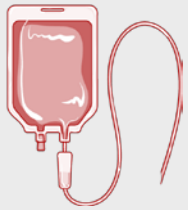
Q1 2021: FDA Clearance of ZIOP IND for Library TCR-T Clinical Trial

Expansion of Library Over Time

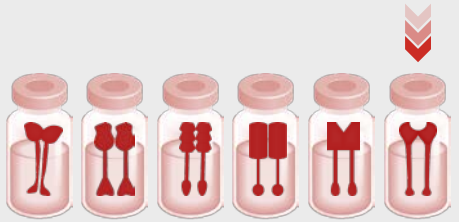
TCR Library “Off-the-shelf”

- Access to unique libraries (expanding through TCR hunting) – IP from best institutions in the world
- Potential cost and process optimization

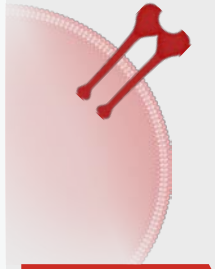
Screening



Peripheral Blood Leukapheresis

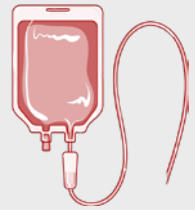


Selection from TCR library



Sleeping Beauty Insertion

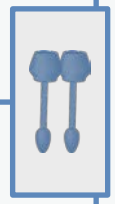
TCR Expression and Expansion

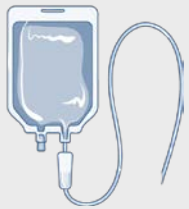


Infusion

Personalized

- Tailored therapeutic designed for each individual’s tumor
- Multiple TCR-T per patient
- Broad application and multiple targets per patient



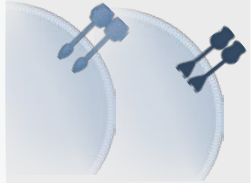


Peripheral Blood Leukapheresis

Resection

Neoantigen identification

Unique preparation of TCRs



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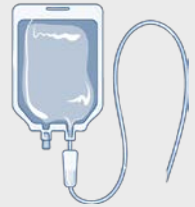

Infusion

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2021-2 Clinical Milestones

H1 2021	H2 2021	2022
Library TCR-T Program Ph 1/2 IND Clearance	**Library TCR-T Program** Ph 1/2 Patient Initiation	**Library TCR-T Program** Ph 1 Initial Data Readout
CD19 CAR-T RPM Autologous (Taiwan) Ph 1 Patient Initiation	**CD19 CAR-T RPM Autologous (Taiwan)** Preliminary Ph 1 data	**Personalized/Next Gen TCR-T Program** Ph 1 IND Clearance
IL-12 Data Updates		**CD19 CAR-T RPM** Ph 1 Data Readout(s)
CD19 CAR-T RPM Allogeneic (US) Ph 1 Patient Initiation/Update	**Personalized TCR-T Program (NCI)** Ph 2 Patient Initiation	**Personalized TCR-T Program (NCI)** Ph 2 Data

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

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R&D Day: March 11, 2021 11am ET

Cell Therapy Focus

Approx. Time	Topic	Speaker
5 minutes	Welcome	Dr. Adam Levy
15 minutes	Company Overview and Strategy	Ms. Heidi Hagen
15 minutes	Portfolio Status and Prioritization	Dr. Raffaele Baffa
20 minutes	Targeting neoantigens for the Treatment of Solid Epithelial Cancers	Dr. Steven Rosenberg
15 minutes	Program Update: Ziopharm TCR-T Program	Dr. Drew Deniger
10 minutes	T-Cell Therapy Application in Colorectal Cancer	Dr. Scott Kopetz
20 minutes	Current Challenges and Future Directions in Cell Therapy	Dr. Carl June
15 minutes	Program Update: CAR-T in Greater China	Mr. James Huang
20 - 30 minutes	Q&A	Management Team

Guest Speakers – R&D Day March 11, 2021

Dr. Steven Rosenberg, Chief of Surgery at the National Cancer Institute

Dr. Carl June, Chair of the Ziopharm Scientific Advisory Board and Director of the Center for Cellular Immunotherapies and Director of Translational Research in the Abramson Cancer Center of the University of Pennsylvania

Dr. Scott Kopetz, Colorectal Cancer Physician Scientist, NCI Colon Task Force Chair, Professor, and Deputy Chair at The University of Texas, MD Anderson Cancer Center

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