UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 8-K

CURRENT REPORT
PURSUANT TO SECTION 13 OR 15(d)
OF THE SECURITIES EXCHANGE ACT OF 1934

Date of report (Date of earliest event reported): June 18, 2015

ZIOPHARM Oncology, Inc.
(Exact Name of Registrant as Specified in Charter)

Delaware	**001-33038**	**84-1475672**
(State or Other Jurisdiction of Incorporation)	**(Commission File Number)**	**(IRS Employer Identification No.)**

One First Avenue, Parris Building 34, Navy Yard Plaza
Boston, Massachusetts **02129**
(Address of Principal Executive Offices) **(Zip Code)**

(617) 259-1970
(Registrant's telephone number, including area code)

Not applicable
(Former Name or Former Address, if Changed Since Last Report)

Check the appropriate box below if the Form 8-K is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

☐ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425).

☐ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12).

☐ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b)).

☐ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c)).

Item 7.01 Regulation FD Disclosure

The Company will be presenting a slide presentation as part of the Mizuho Boston BioPharma Bus Tour: The Road to Healing, a copy of which is furnished as Exhibit 99.1 hereto. From time to time, the Company intends to conduct meetings with third parties in which this presentation will be presented.

This information, including the information contained in the presentation furnished as Exhibit 99.1, shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, and is not incorporated by reference into any of the Company's filings, whether made before or after the date hereof, regardless of any general incorporation language in any such filing.

Item 9.01 Financial Statements and Exhibits

(d) Exhibits

Exhibit No.	Description
99.1	Presentation of the Company dated June 18, 2015

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

ZIOPHARM Oncology, Inc.

By: /s/ Kevin G. Lafond
Name: Kevin G. Lafond
Title: Vice President, Chief Accounting Officer and Treasurer

Date: June 18, 2015

INDEX OF EXHIBITS

Exhibit No.	Description
99.1	Presentation of the Company dated June 18, 2015

Exhibit 99.1

ZIOPHARM Oncology

The Future of Cancer Therapy

June 2015

Forward-Looking Statements

ZIOPHARM Oncology

This presentation contains certain **forward-looking information about ZIOPHARM Oncology** 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. Words such as "expect(s)," "feel(s)," "believe(s)," "will," "may," "anticipate(s)" and similar expressions are intended to identify forward-looking statements. These statements include, but are not limited to, statements regarding our ability to successfully develop and commercialize our therapeutic products, our ability to expand our long-term business opportunities; financial projections and estimates and their underlying assumptions; and future performance. All of such statements are subject to certain risks and uncertainties, many of which are difficult to predict and generally beyond the control of the Company, that could cause actual results to differ materially from those expressed in, or implied or projected by, the forward-looking information and statements. These risks and uncertainties include, but are not limited to: whether any of our therapeutic candidates will advance further in the clinical trials process and whether and when, if at all, they will receive final approval from the U.S. Food and Drug Administration or equivalent foreign regulatory agencies and for which indications; whether any of our therapeutic candidates will be successfully marketed if approved; whether our DNA-based biotherapeutics discovery and development efforts will be successful; our ability to achieve the results contemplated by our collaboration agreements; the strength and enforceability of our intellectual property rights; competition from pharmaceutical and biotechnology companies; the development of and our ability to take advantage of the market for DNA-based biotherapeutics; our ability to raise additional capital to fund our operations on terms acceptable to us; general economic conditions; and the other risk factors contained in our periodic and interim reports filed with the SEC including, but not limited to, our annual report on Form 10-K for the fiscal year ended December 31, 2014 and other filings with the SEC, which are available at www.sec.gov. Our audience is cautioned not to place undue reliance on these forward-looking statements that speak only as of the date hereof, 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.

Financial Highlights

ZIOPHARM Oncology

- NASDAQ symbol “ZIOP”
- Approximately 128.2 million shares outstanding
- Cash and cash equivalents of approximately $129.7 million
- Cash resources sufficient to fund our operations into 2Q 2017
  - Excludes 2Q payment of $57.5 million from Intrexon related to the biopharmaceutical business of Merck KGaA agreement
- No debt

** As of March 31, 2015*

Intrexon and ZIOPHARM Collaboration with the Biopharmaceutical Business of Merck KGaA Highlights Significant Value of CAR-T Platform

ZIOPHARM Oncology

- **Exclusive strategic collaboration and license agreement to develop and commercialize CAR-T cancer therapies**
  - Exclusive access to CAR T suite of technologies, including MD Anderson technologies
  - Intrexon and ZIOPHARM responsible for all platform and product developments until IND filing
  - Biopharmaceutical business of Merck KGaA to nominate targets of interest, lead IND filing and pre-IND interactions, clinical development and commercialization
  - Intrexon and ZIOPHARM retain ability to explore targets independently granting Merck KGaA opt-in rights during clinical development
- **Up to $941M for two targets recognizes value of CAR T programs and technology, de-risks portfolio and adds significant global development expertise**
- **Upfront, milestone and royalty payments divided evenly between ZIOPHARM and Intrexon**
  - Upfront payment of $115 million
  - For the first two targets, up to $826 million development, regulatory and commercial milestones ($413 million per product)
  - Tiered royalties up to lower-double digits on net sales
  - Merck KGaA may elect additional targets at additional cost

Key Investment Highlights

ZIOPHARM Oncology

- **Robust synthetic immunology pipeline targeting hematologic malignancies and solid tumors**
  - Non-viral and viral CAR-T, TCR, and NK-cell therapies
  - IL-12 gene therapy: adenoviral vector for IL-12 expression controlled via oral activator
- **Differentiated technology platforms**
  - *In vivo* control of gene expression by oral pill
  - Non-viral: faster and less complex lower cost
  - Dual approach: Point-of-Care (autologous) & Off-the-Shelf (allogeneic)
- **Agreement with biopharmaceutical business of Merck KGaA: to elect initial 2 CAR-T targets**
- **Multiple trial launches in 2015/2016 with potential data in Q4 2015**
- **Well capitalized**

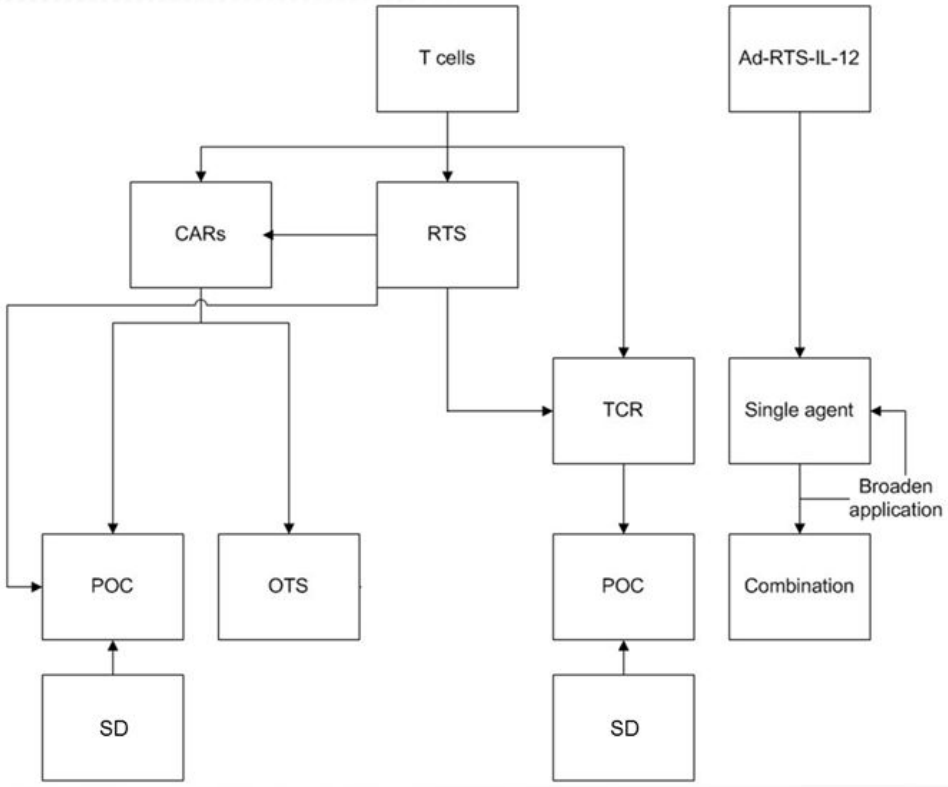
Milestones 2015 / 2016

ZIOPHARM Oncology

- **Intra-tumoral IL-12 RheoSwitch®**
  - Phase 1/2 Breast Cancer with SIOC initiated Q2 2015
  - Phase 1 GBM initiated Q2 2015; potential early data Q4 2015
- **CAR-T**
  - Initiate Phase 1 next-generation CD19 CAR trials
  - Potential early data on Phase 1 CARs studies in Q4 2015
  - Initiate novel CAR for myeloid malignancies in late 2015/early 2016
- **Other Leukemia and Solid Tumor CAR-T trials in 2016**
- **Allogenic, Off-the-Shelf T-Cell Studies in 2016**

Overall strategy and differentiation

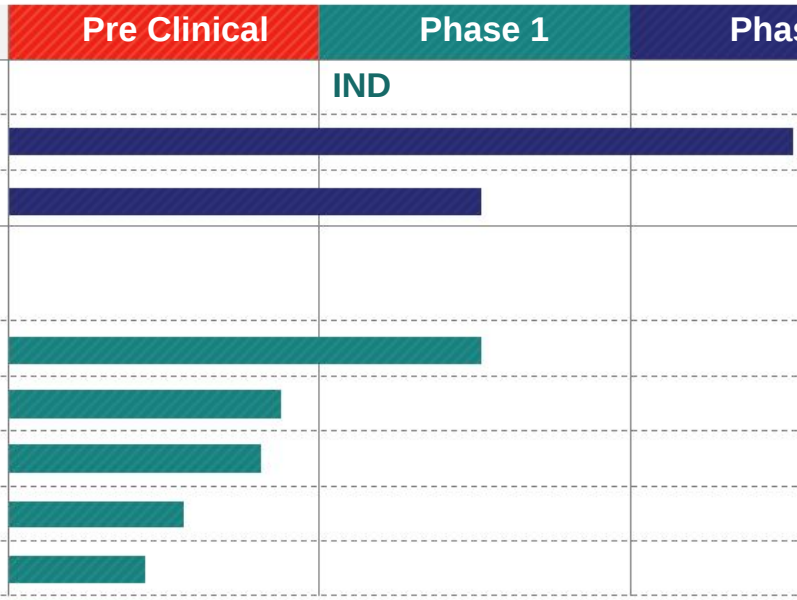
ZIOPHARM Oncology



Robust Pipeline In Synthetic Immunology

ZIOPHARM Oncology

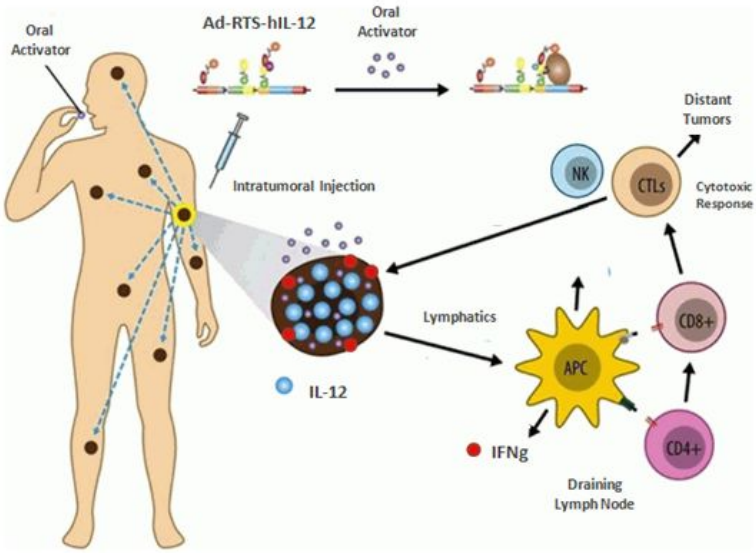
Compound	Pre Clinical	Phase 1	Phase 2
Ad-RTS-IL-12 gene Rx		IND	
Breast			
GBM			
Adoptive Cell Therapies			
B-cellMalignancies			
Myeloid Malignancies			
RTS-controlled T cell			
Solid Tumors			
Universal Donor			



IL-12 Gene Therapy

ZIOPHARM Oncology

- Adenoviral vector engineered to express IL-12 utilizing RheoSwitch Therapeutic System® gene switch
- Injected intra-tumor with IL-12 expression controlled via administration of oral activator ligand veledimex
- Regulated intra-tumoral expression of IL-12 promotes activation of tumor-infiltrating lymphocytes to drive cytotoxic immune response against distant tumors

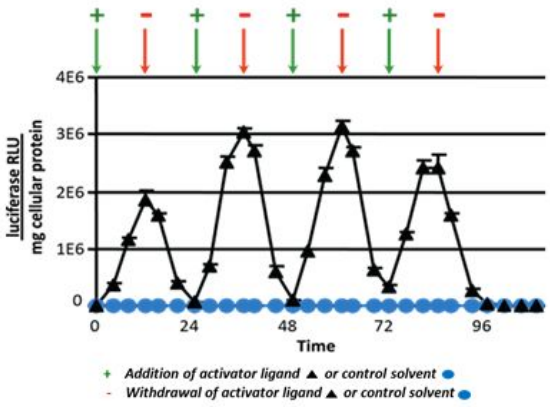


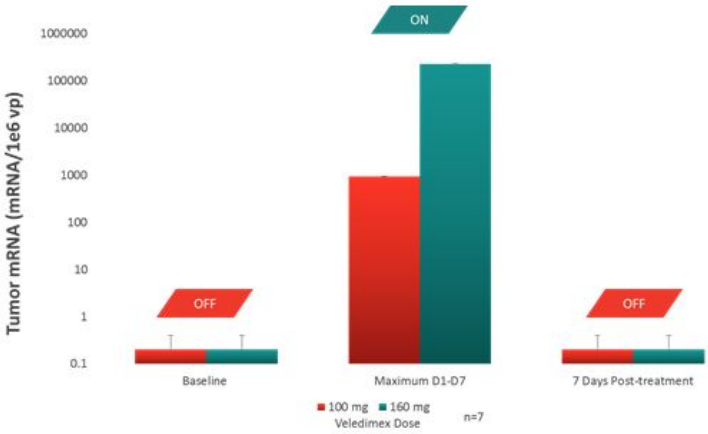
Ad-RTS-IL-12 ~~Oral~~ Veledimex

Precisely Controls Expression of IL-12 (*in vivo* control)

ZIOPHARM Oncology

- Improved persistence and survival in tumor microenvironment
- Limits on-target, off-tumor toxicities





Phase 1b/2 Study of IL-12 Gene Therapy in Locally Advanced/Metastatic Breast Cancer

ZIOPHARM Oncology

ZIOPHARM Oncology

Memorial Sloan Kettering Cancer Center

N = 40

locally advanced or metastatic breast cancer of all subtypes

up to 20% (8 subjects) with HER2+ breast cancer

Response (PR or SD) to first- or second-line standard therapy

Suspend **chemotherapy phase** of treatment

(HER2 therapy permitted)

Immunotherapy phase of treatment

A single cycle of Ad-RTS-hIL-12 + veledimex

goal of maintaining or improving pre-study response

1^{o}: Safety and tolerability

2^{o}: ORR, disease control and biomarkers

Phase 1 Study of IL-12 Gene Therapy in Recurrent or Progressive Glioblastoma/Grade III Malignant Glioma

ZIOPHARM Oncology

ZIOPHARM Oncology

DANA-FARBER/BRIGHAM AND WOMEN'S CANCER CENTER

STANFORD SCHOOL OF MEDICINE

THE UNIVERSITY OF CHICAGO PRITZKER SCHOOL OF MEDICINE

CEDARS-SINAI

UCLA

Northwestern Memorial Hospital

N = 72

Recurrent or progressive glioblastoma or Grade III malignant glioma

Stratified according to clinical indication for tumor resection: Resection plus injection vs. stereotactic injection alone

A single cycle of Ad-RTS-hIL-12 + escalating veledimex

1^{O}: Safety and tolerability

2^{O}: Determine MTD and immune response, including ORR, PFS and OS

Cell Therapy
Portfolio of Effector Cells

ZIOPHARM Oncology

1. Chimeric Antigen Receptor (CAR+) T cells:

- Target cell surface tumor-associated antigens (TAAs) independent of HLA
- “Public” antigens

2. T Cell Receptor (TCR) Cells:

- Target intracellular TAAs dependent on HLA
- “Private” antigens

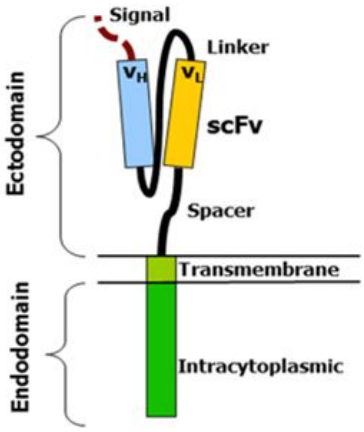
3. Natural Killer (NK) cells:

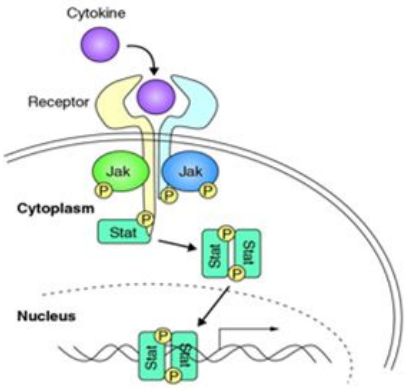
- Target tumor with loss of HLA
- No “antigens”

Improving the Therapeutic Potential of CAR-T

ZIOPHARM Oncology

- Understanding of the effector cell biology
- Co-stimulation with cytokine





Effector cells | Chimeric antigen receptor | Cytokine

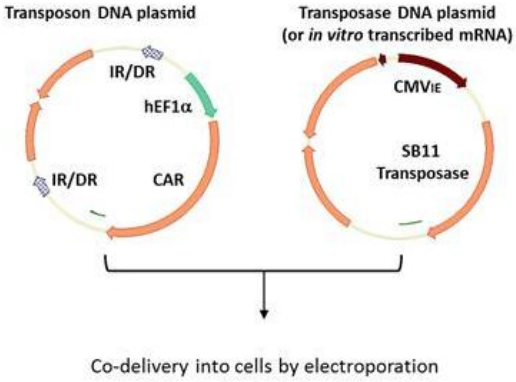
Signals 1 & 2 | Signal 3

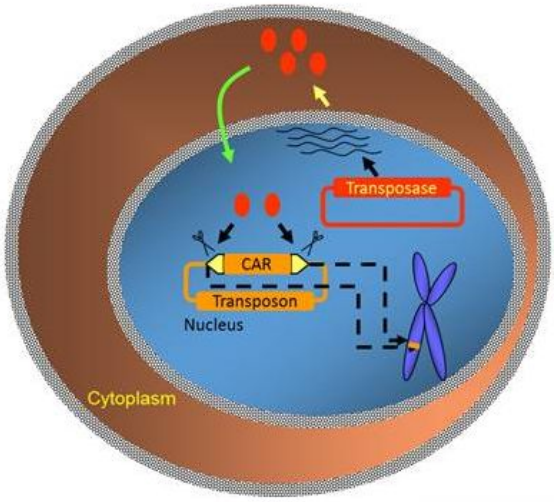
Advantages of Non-Viral Gene Integration

ZIOPHARM Oncology

***Sleeping Beauty* transposon/transposase system**

- Fast, efficient and nimble gene transfer method
- *Improves* cost, time, and complexity compared to viral-based integration

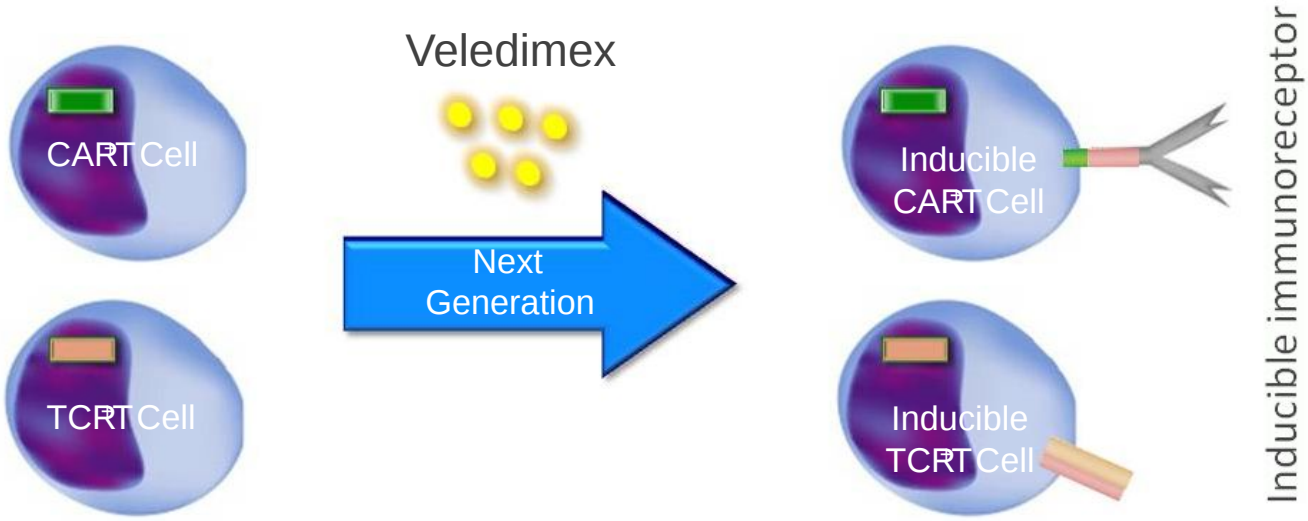




Management of Potential Toxicity through Inducible Immunoreceptor Expression (*in vivo* control)

ZIOPHARM Oncology

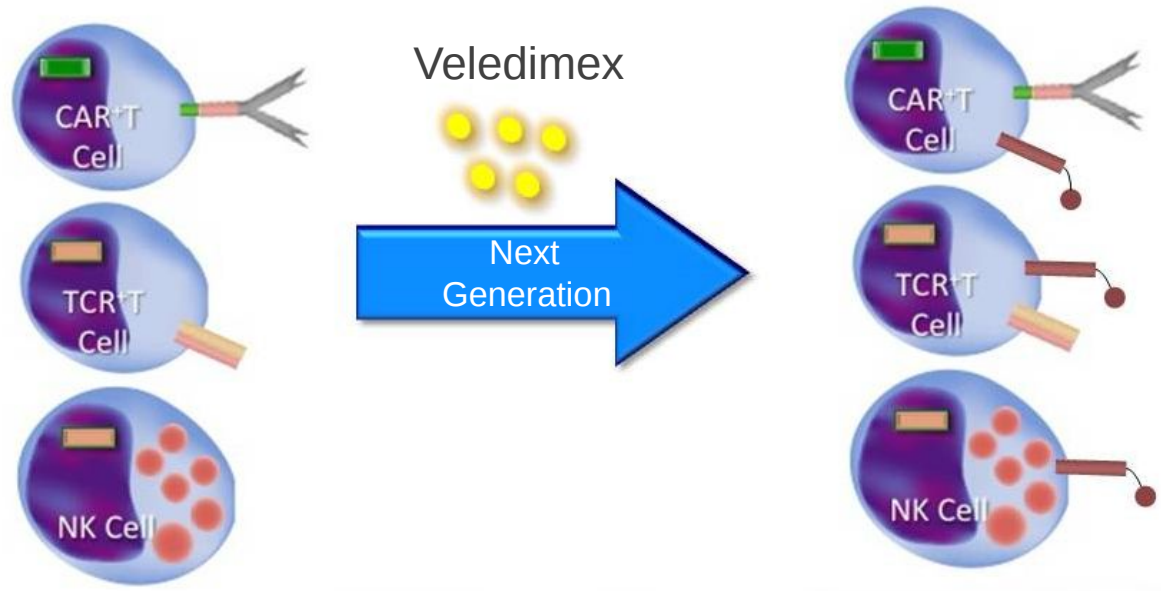
Many attractive target antigens are also expressed on normal cells



Building the Next-Generation of Inducible Cytokines (*in vivo* control)

ZIOPHARM Oncology

Therapeutic potential of effector cells depends on recognition of tumor cells and recycling effector function in tumor microenvironment.



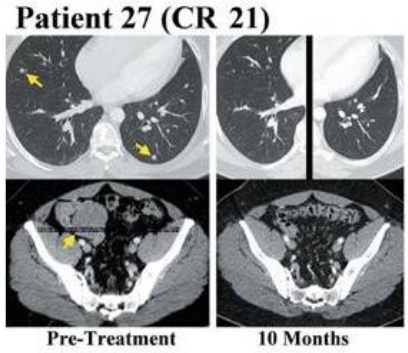
IL-12 Cell Therapy

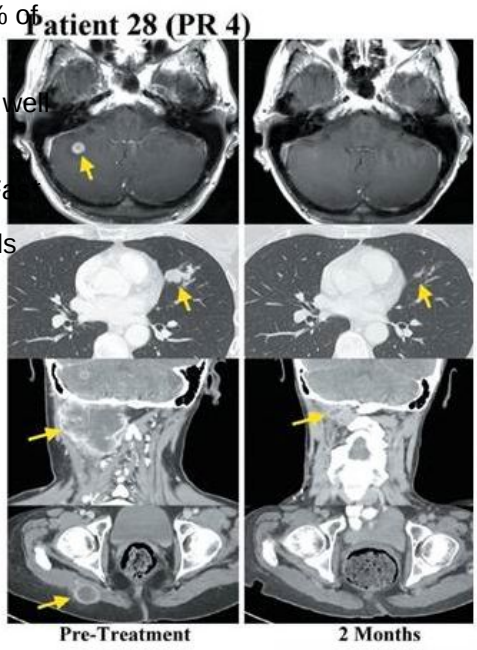
Zhang, Rosenberg et al., Feb 2015, *Clinical Cancer Research*

ZIOPHARM Oncology

Tumor Infiltrating Lymphocytes Genetically Engineered with an Inducible Gene Encoding Interleukin-12 for the Immunotherapy of Metastatic Melanoma

- TIL plus IL-12 can mediate objective responses in up to 70% of patients with metastatic melanoma
- Enhances the activity of effector CD4+ and CD8+ T cells as well as natural killer NK and NK T cells
- Collapse of tumor stroma is triggered by IL-12 induction of Fa
- 50 to 100 fold fewer cells compared to standard TIL protocols and in the absence of IL-2 co-administration
- Transferred cells did not persist long-term and were associated with severe dose-limiting toxicity

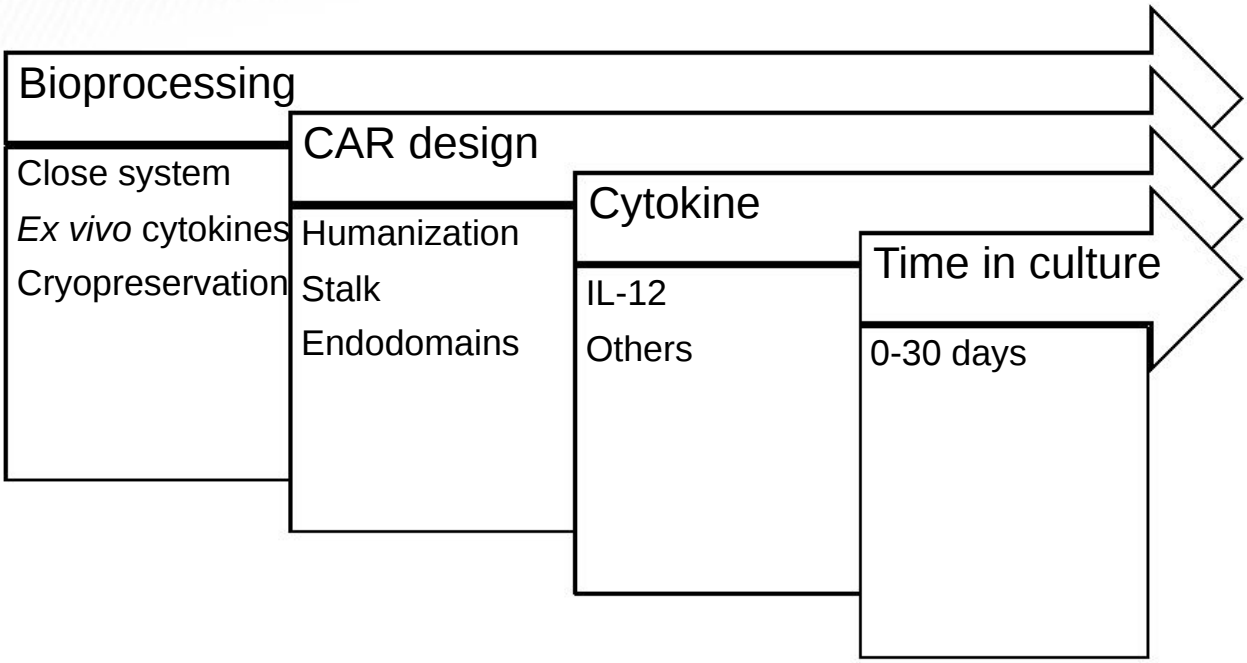




** Kerkar, Rosenberg et al., Mol Ther. 2013 Jul;21(7):1369-77*

Next-generation CAR cells

ZIOPHARM Oncology

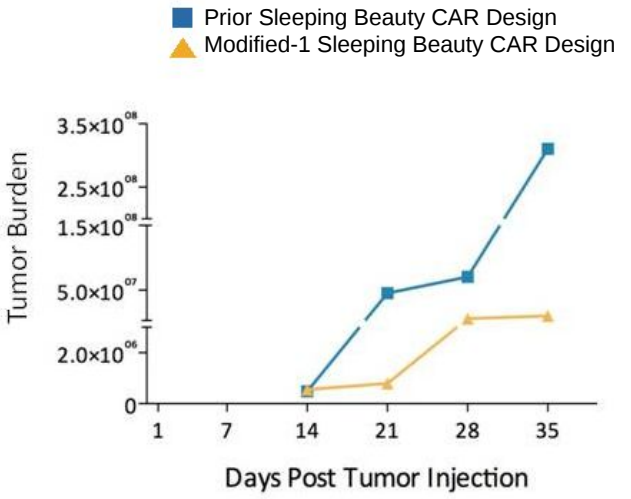


New CD-19 CAR Design Using *Sleeping Beauty*

ZIOPHARM Oncology

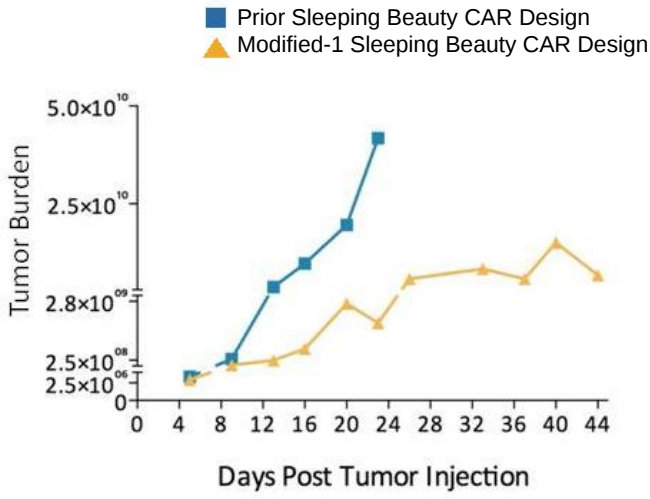
Next-generation design demonstrates
superior *in vivo* activity in pre-clinical models

Minimal Residual Disease Model



T cell infusion (day 1)

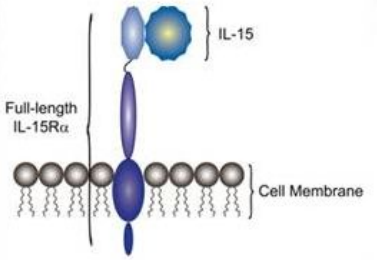
Established Disease Model



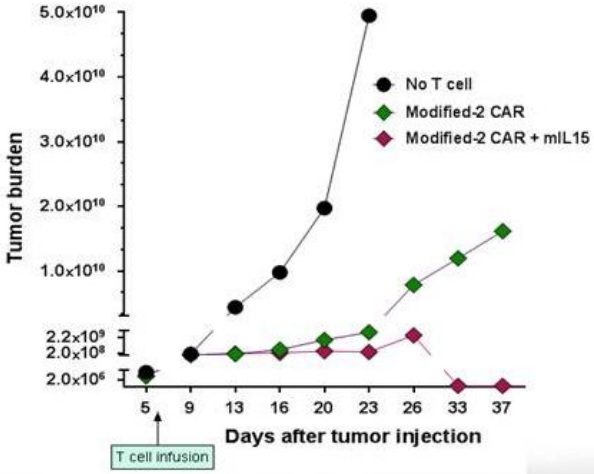
T cell infusion (day 6)

Cytokine Signaling Enhances CARs

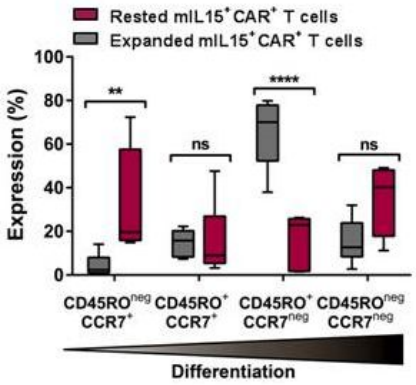
ZIOPHARM Oncology



Established Disease Model

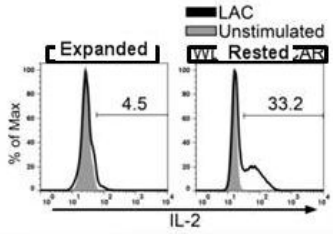


Persisting T-cell Subsets (*in vitro*):



CD95 Expression: + + + +

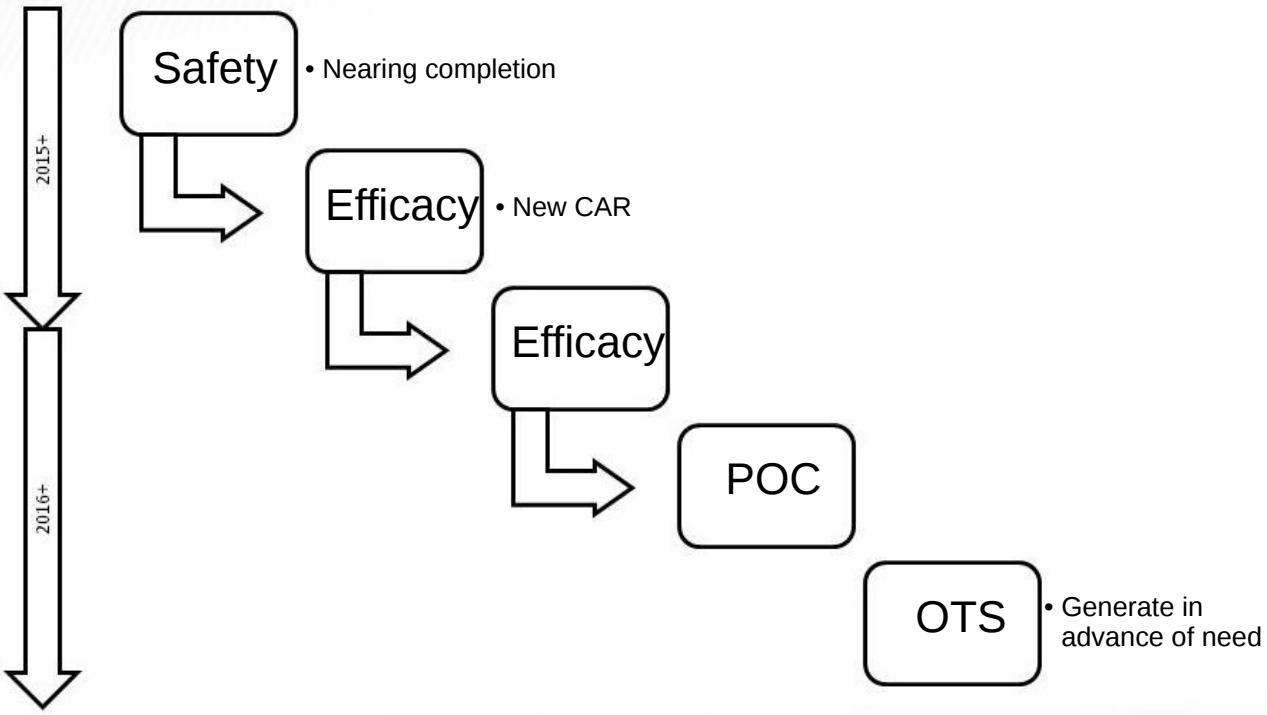
Memory Subset: SCM CM EM EMRA



CD19-specific CAR cells

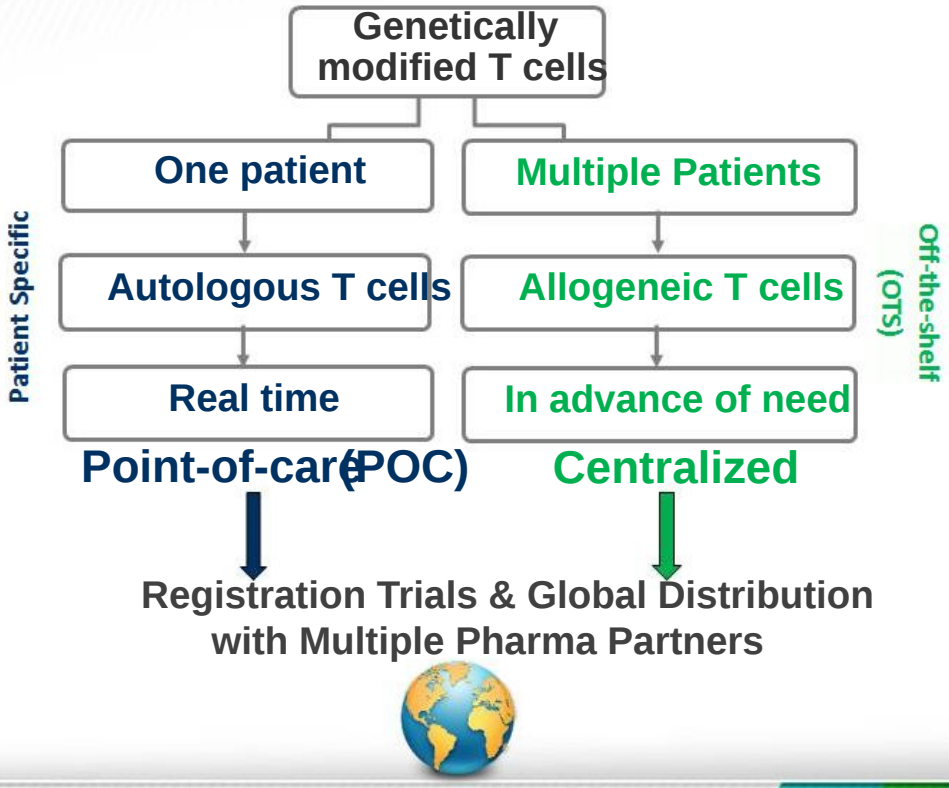
Template for CAR T cells

ZIOPHARM Oncology



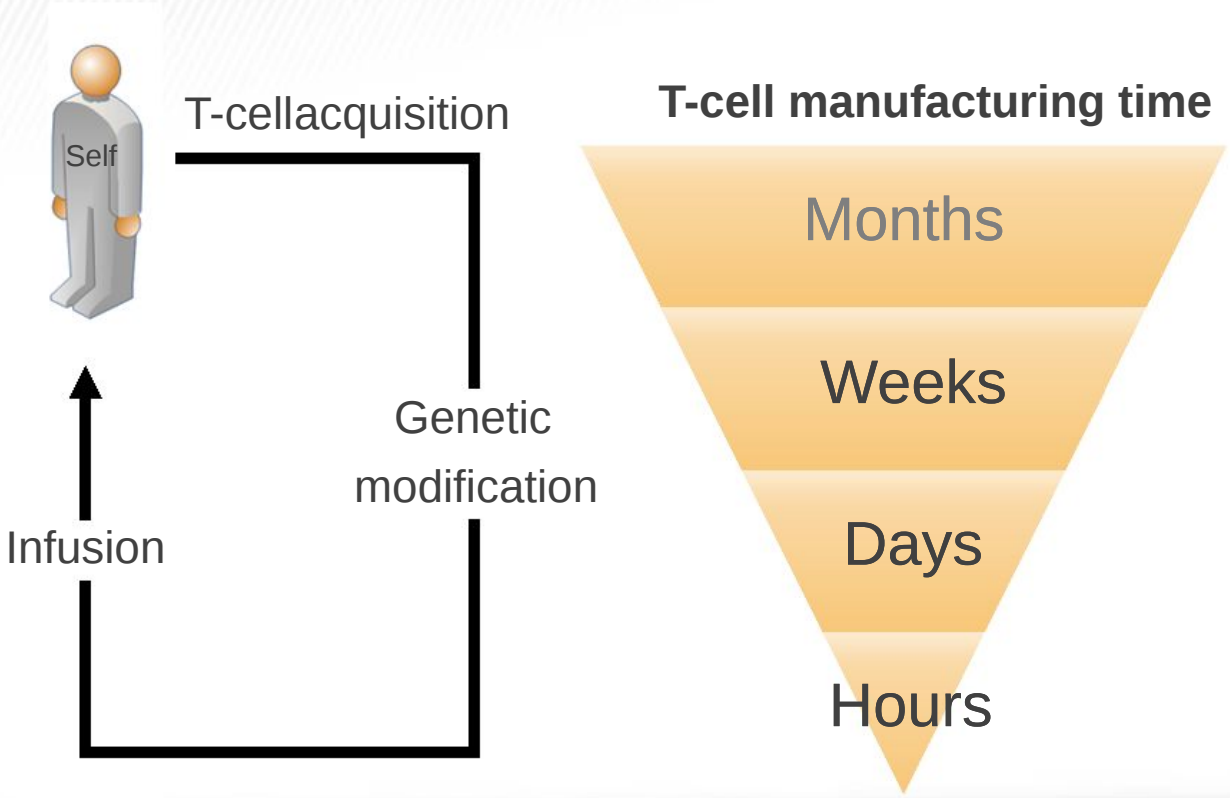
Dual CMC Distribution Approaches for Cell Therapies

ZIOPHARM Oncology



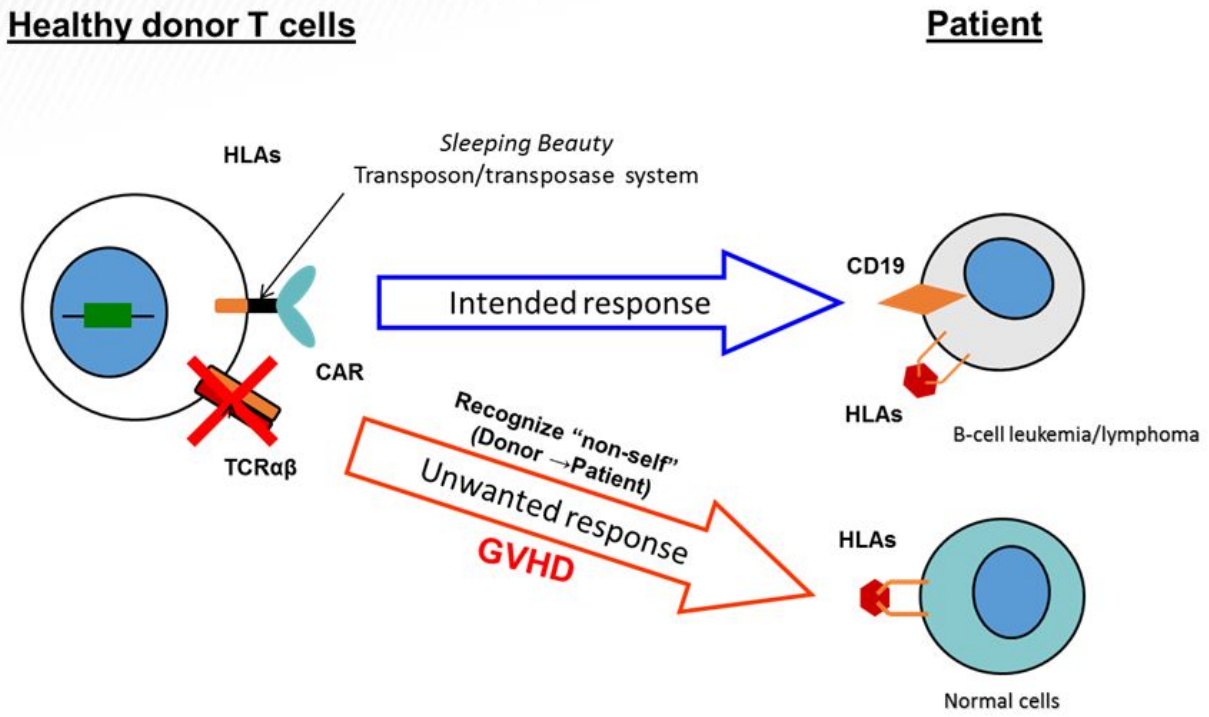
Steps Toward Point-of-Care Distribution

ZIOPHARM Oncology



Off-the-Shelf (OTS) Solution

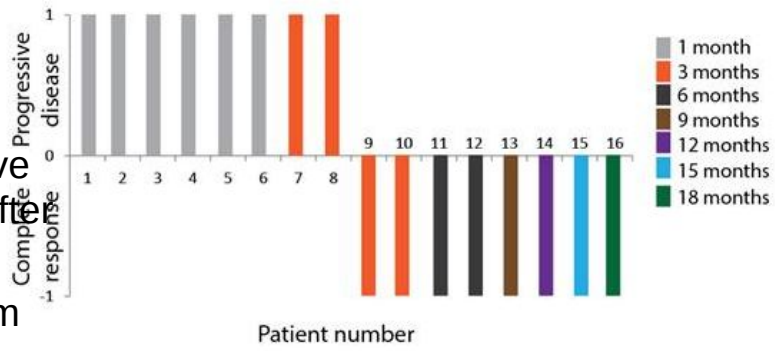
ZIOPHARM Oncology



Ongoing Phase 1 Safety Study: First Generation Proof of Concept

ZIOPHARM Oncology

- Safely infuse patients
  - No immediate or late toxicity
  - No excess GVHD
  - Outpatient infusions
- 50% of patients with aggressive disease remain in remission after transplant & CAR T cells
- Safely re-infuse CAR T cells from patient-specific cryopreserved banks (n=3 re-treated)
- CAR T cells apparently effective in the adjuvant disease setting
- Approximately 28-day CAR T-cell persistence

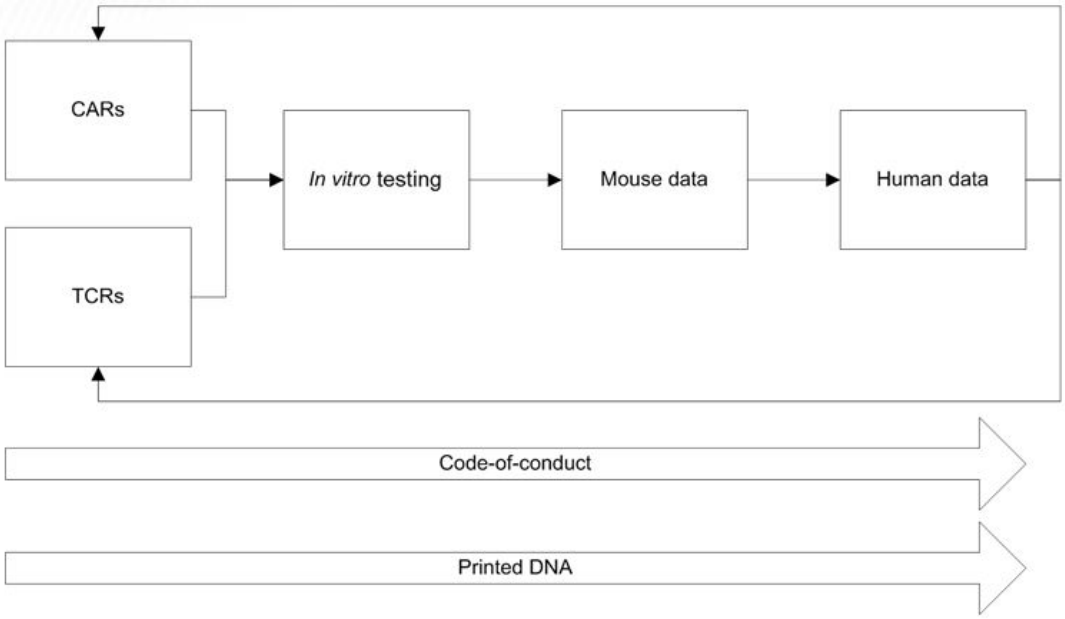


N = 16 pts treated, 8 remain in CR with median 7.5 mo. follow-up

Kebriaei et. al, EHA 2015

Future of T-cell therapy

ZIOPHARM Oncology

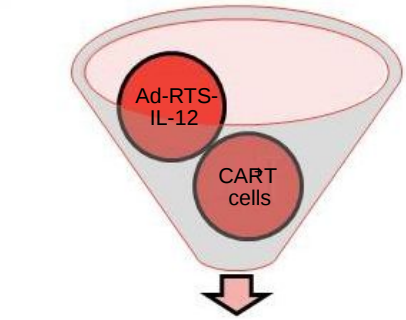


Code-of-conduct

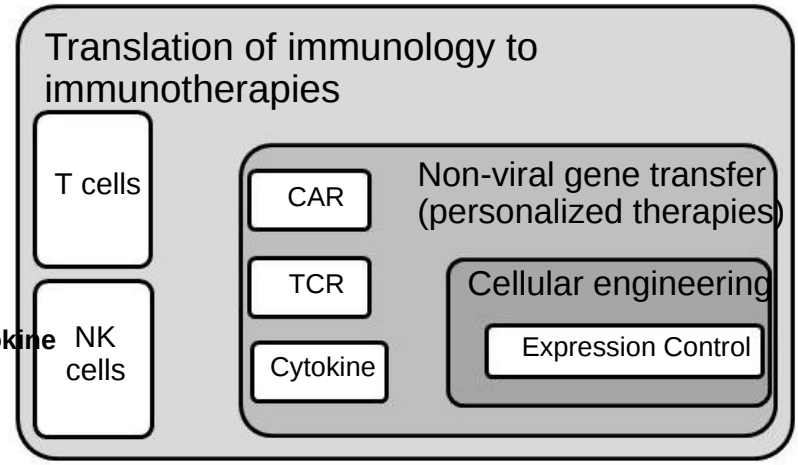
Printed DNA

Drive Pipeline Forward To Create Value
How Are We Differentiated

ZIOPHARM Oncology



Personalized and orally controlled cytokine transcription



Differentiated Technology Platforms

ZIOPHARM Oncology

Technology	Intrexon / ZIOPHARM / MD Anderson
RheoSwitch Therapeutic System®	Most advanced family of ligands and switches available for dynamic range, safety, and temporal control (on-off-on etc.)
Non-Viral Integration Platform	First in-human testing of *Sleeping Beauty* system in hematopoietic cells
UltraVector®	Industrialized assembly and screening of multigenic DNA modules for synthetic biology
Adoptive Cell Therapy	Expertise in development and implementation of novel immunotherapy trials
Laser-enabled Analysis and Processing (LEAP®)	Computerized image-based selection and laser processing for cell identification and purification
AttSite® Recombinases	Stable, targeted gene integration and expression with proprietary serine recombinases

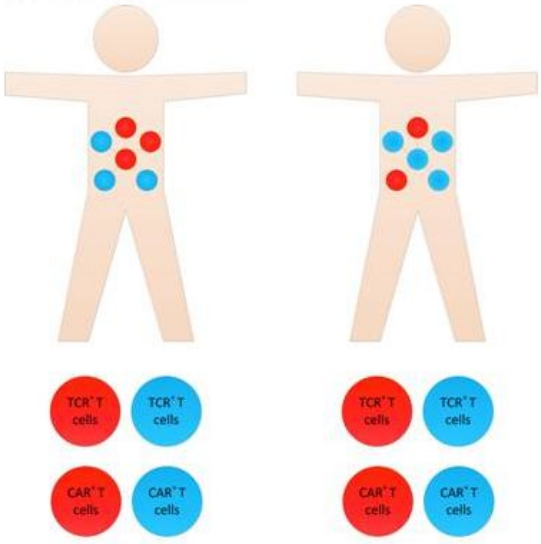
Lower cost, controllable toxicity, autologous and allogeneic

Personalized Therapy for Disease and Patient

ZIOPHARM Oncology

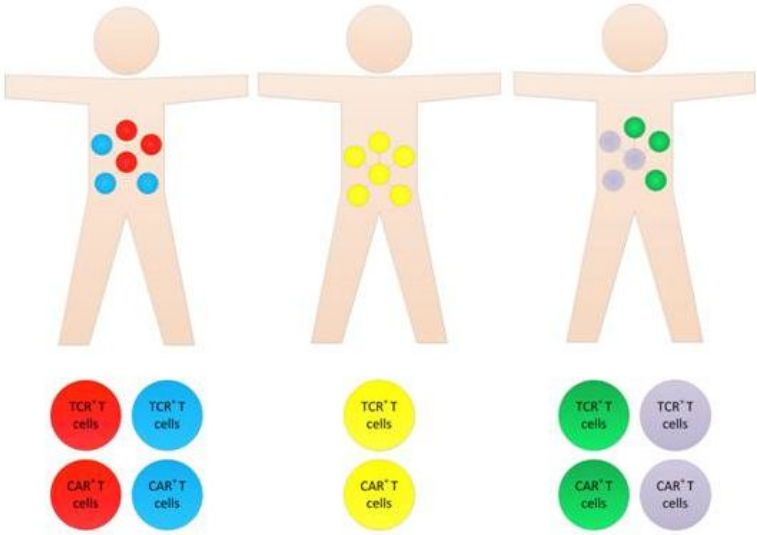
Heterogeneity of tumor-associated antigen (TAA)

Intra-tumor



Infuse T cells with more than one specificity
Personalized for the disease

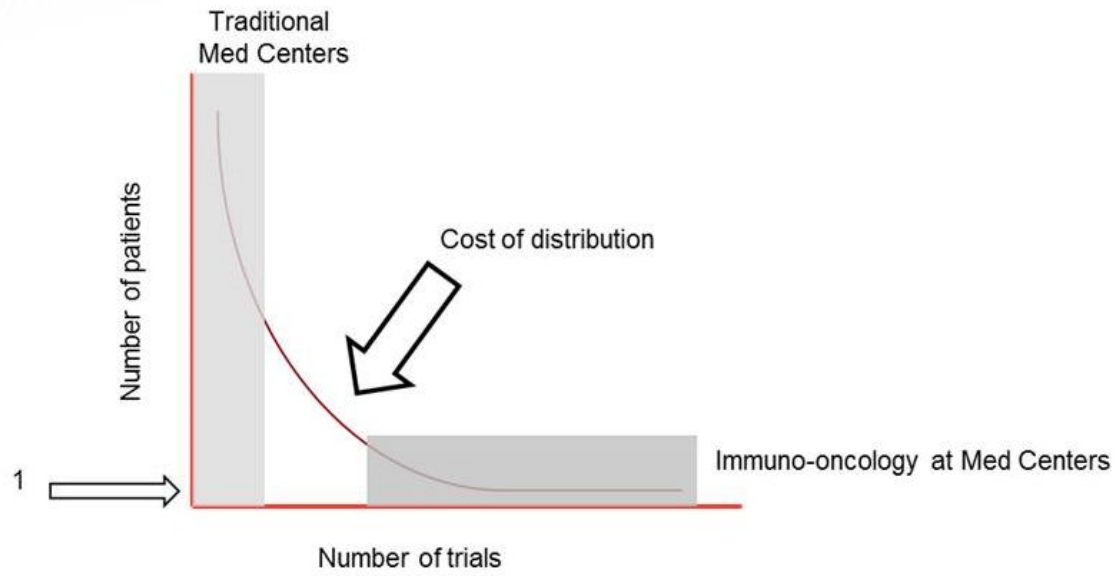
Inter-tumor



Infuse T cells with one or more specificity
Personalized for the patient
"N=1" trial paradigm

Power-Law Curve
The New Industrialization of T cells

ZIOPHARM Oncology



The N=1 approach has been shown for non-genetically modified T cells

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Cancer Immunotherapy Based on Mutation-Specific CD4+ T Cells in a Patient with Epithelial Cancer

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Limited evidence exists that humans mount a mutation-specific T cell response to epithelial cancers. We used a whole-exomic-sequencing-based approach to demonstrate that tumor-infiltrating lymphocytes (TIL) from a patient with metastatic cholangiocarcinoma contained CD4+ T helper 1 (T_H1) cells recognizing a mutation in erbb2 interacting protein (ERBB2IP) expressed by the cancer. After adoptive transfer of TIL containing about 25% mutation-specific polyfunctional T_H1 cells, the patient achieved a decrease in target lesions with prolonged stabilization of disease. Upon disease progression, the patient was retreated with a >95% pure population of mutation-reactive T_H1 cells and again experienced tumor regression. These results provide evidence that a CD4+ T cell response against a mutated antigen can be harnessed to mediate regression of a metastatic epithelial cancer.

The human immune system has evolved to recognize and eliminate cells expressing foreign, nonself antigens. All malignant tumors harbor nonsynonymous mutations or other genetic alterations (*1*), some of which may generate neo-"nonself" epitopes that could potentially trigger an antitumor T cell response. Indeed, mutation-reactive T cells can frequently be found infiltrating human melanomas (*2*) and likely play a critical role in the clinical efficacy of adoptive cell therapy (ACT) and other immunotherapies in melanoma (*3*–*7*). However, limited evidence exists demonstrating that the human immune system can mount an endogenous, mutation-specific T cell response against epithelial cancers that comprise over 80% of all human malignancies (*8*–*11*), and it is unclear whether this response can be harnessed to develop effective personalized cancer immunotherapies (*12*). Moreover, epithelial cancers often contain fewer mutations than melanoma (*4*), which may decrease the probability of eliciting a mutation-specific T cell response. We thus first set out to determine whether tumor-infiltrating lymphocytes (TIL) recognizing patient-specific mutations can be identified in patients with metastatic gastrointestinal (GI) cancers.

To this end, a 43-year-old woman with widely metastatic cholangiocarcinoma (patient 3737, table S1) who progressed through multiple chemotherapy regimens was enrolled in a TIL-based ACT protocol for patients with GI cancers (NCT01174121) (*13*). Lung metastases were resected and used as a source for whole-exomic sequencing and generation of T cells for treatment. Whole-exomic sequencing revealed 26 nonsynonymous mutations (table S2). To test whether the patient's TIL recognized any of these mutations, we used a minigene approach. Briefly, for each mutation we designed a minigene construct that encoded for the mutated amino acid flanked on each side by 12 amino acids from the endogenous protein (fig. S1). Multiple minigenes were synthesized in tandem to generate tandem minigene (TMG) constructs (fig. S1 and table S3), which were then used as templates for the generation of in vitro transcribed (IVT) RNA (*13*). Each of these IVT TMG RNAs was then

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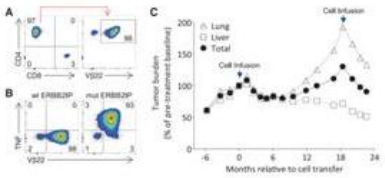
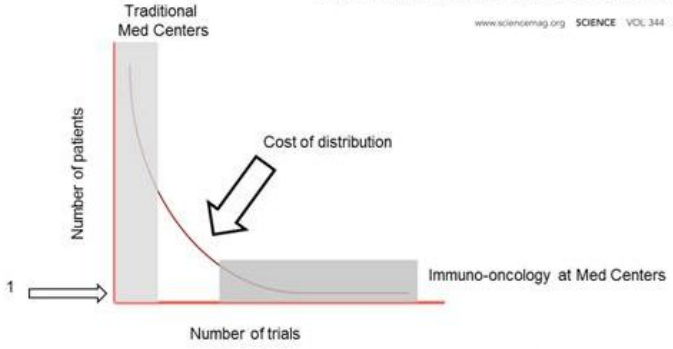
Evidence of tumor regression after treatment with a highly pure population of Vβ22+ ERBB2IP mutation–reactive CD4+ T cells.



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