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): January 11, 2018

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

Delaware	**001-33038**	**84-1475642**
(State or Other Jurisdiction of Incorporation)	**(Commission File Number)**	**(IRS Employer Identification No.)**

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

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act (17 CFR 230.405) or Rule 12b-2 of the Exchange Act (17 CFR 240.12b-2).

Emerging growth company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Item 7.01 **Regulation FD Disclosure**

On January 11, 2018, ZIOPHARM Oncology, Inc., or the Company, will present the attached presentation at the 36th Annual J.P. Morgan Healthcare Conference in San Francisco, California being held on January 8 – 11, 2018.

A copy of the above referenced presentation is furnished as Exhibit 99.1 to this Current Report on Form 8-K. 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 January 11, 2018

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: Sr. Vice President Finance, Chief Accounting Officer and Treasurer

Date: January 11, 2018

Exhibit 99.1

Ziopharm ONCOLOGY

The Next Generation of Immunotherapy Platforms

36th Annual J.P. Morgan Healthcare Conference

January 2018

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 the progress, timing and results of preclinical and clinical trials involving the Company's drug candidates, and the progress of the Company's research and development programs. 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 by, the forward-looking statements. These risks and uncertainties include, but are not limited to: whether chimeric antigen receptor T cell (CAR+ T) approaches, Ad-RTS-IL-12, TCR and NK cell-based therapies, or any of our other therapeutic candidates will advance further in the preclinical or 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 chimeric antigen receptor T cell (CAR+ T) approaches, Ad-RTS-IL-12, TCR and NK cell-based therapies, and our other therapeutic products will be successfully marketed if approved; the strength and enforceability of our intellectual property rights; competition from other pharmaceutical and biotechnology companies; and the other risk factors contained in our periodic and interim SEC reports filed from time to time with the Securities and Exchange Commission, including but not limited to, our Annual Report on Form 10-K for the fiscal year ended December 31, 2016 and our Quarterly Report on Form 10-Q for the quarter ended September 30, 2017. Readers are 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.

Two Distinct Platforms, Multiple Opportunities

Control of IL-12

Weaponize existing immune system

- IL-12: master regulator of immune system
- RheoSwitch® controls local dosing
- Immune checkpoint inhibitor combination with nivolumab
- Multiple cancer indications beginning with GBM

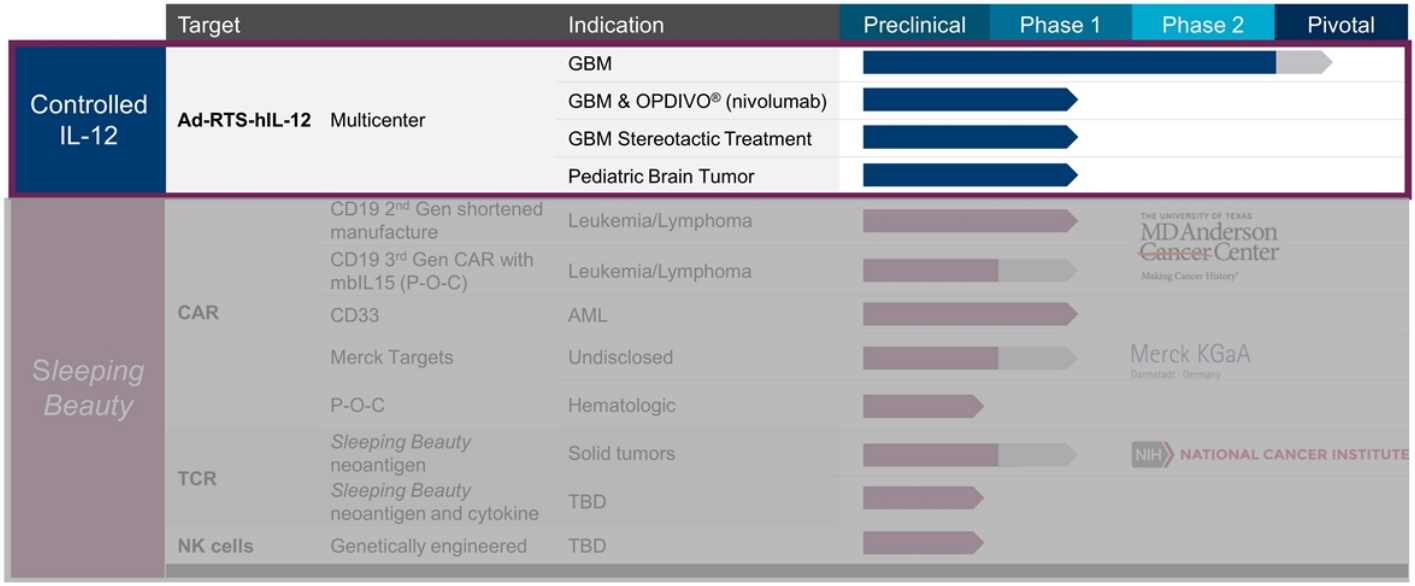
Sleeping Beauty

Implement new immune system

- Most clinically advanced non-viral platform
- Point-of-care (P-O-C): fraction of cost in a fraction of the time
- Scalable

Ziopharm ONCOLOGY

Two Platforms Drive Next Generation Immunotherapy



P-O-C = Point-of-Care

Initiated Planned

Ziopharm ONCOLOGY

CONTROLLED IL-12

First Market: A New Paradigm for Recurrent Glioblastoma

Ziopharm ONCOLOGY

Glioblastoma: Global Opportunity for Controlled IL-12

~70,000
new cases world wide each year

12,390[1]
new cases in the U.S. each year

14,576[2]
new cases in Europe each year

Frontline Therapy

- Surgery

- Radiation
- Chemotherapy (temozolomide)

Recurrence = 90%
US – 11,151[1]
EU – 13,118[2]

Recurrent GBM
Average time to death remains **5 to 8 months**

1. http://www.abta.org/about-us/news/brain-tumor-statistics/
2. GlobalData information, June 2016

Ziopharm ONCOLOGY

Multicenter Phase 1 Study Evaluates Ad-RTS-hIL-12 Plus Veledimex in Patients with Recurrent Glioblastoma

Ad-RTS-hIL-12

A replication-incompetent adenoviral vector administered via a single injection into the tumor and engineered to express and control hIL-12, a powerful cytokine that stimulates an immune anti-tumor response.

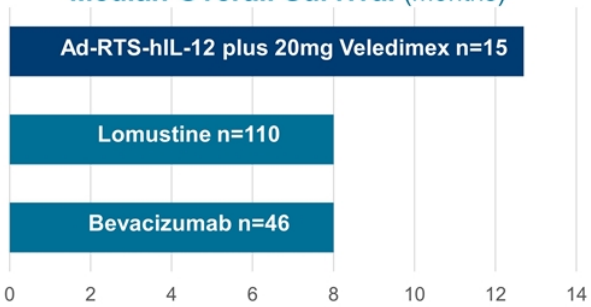
Patients scheduled for SOC resection/craniotomy

Veledimex 3±2 hrs before resection → Craniotomy with Ad-RTS-hIL-12 free-hand injection → Veledimex

Day 0

Days 1 to 14 QD and follow up

Median Overall Survival (months)



Ad-RTS-hIL-12 + v data as of October 18, 2017; Data for lomustine and bevacizumab from randomized phase 2 study (BELOB).

Phase 3 randomized control trial to initiate this year

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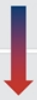
Why Do Patients Benefit?

Tumors Cold



Tumors Hot

Ad-RTS-hIL-12

1. IL-12 generated from replication-incompetent adenovirus delivered to GBM
2. Patient takes oral pill to produce IL-12 from tumor
3. IL-12 signals T cells to GBM for sustained anti-tumor activity

The Evidence*:

- **MRI evidence:** Tumors **shrinking** after IL-12 immune therapy
- **New emerging biomarker:** Ratio of killer-to-suppressor T cells correlates with **survival**
- **Low-dose steroids:** Improved **survival** likely by maintaining IL-12 immune response; 100%** survival (n=4)
- **Biopsy data:** IL-12 recruits T cells into GBM to make "cold" tumor site "**hot**" for long periods of time

** "A Phase 1 study of Ad-RTS-hIL-12 + veledimex in adult recurrent glioblastoma," presented at 2017 Society of Neuro-Oncology by Antonio Chiocca, M.D., Ph.D., Brigham and Women's / Dana-Farber Cancer Center*

*** As of October 2018*

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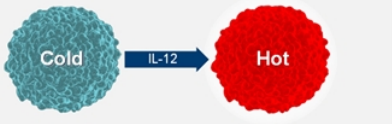
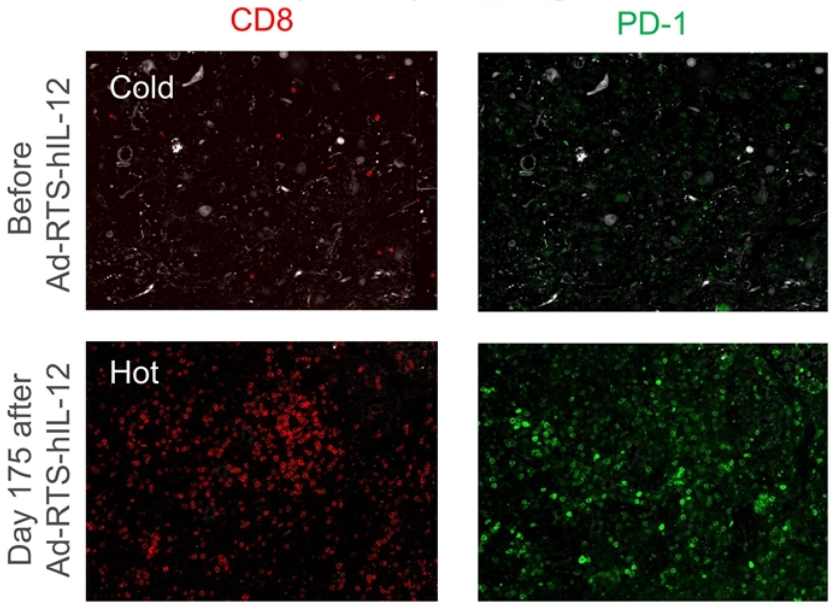
Biopsies Show New Influx of Killer T cells (CD8$^+$), Upregulation of PD-1



3/3 Subjects	IFNγ: Mean ± SEM (pg/g)	
	Serum (pg/mL)	Tumor (pg/g)
Baseline	0.0 ± 0.0	4.2 ± 2.6
Days 130-175	0.0 ± 0.0	226 ± 138

Biopsies at four-plus months after IL-12 activation by veledimex reveal new infiltrates of T cells active in 3 of 3 patients



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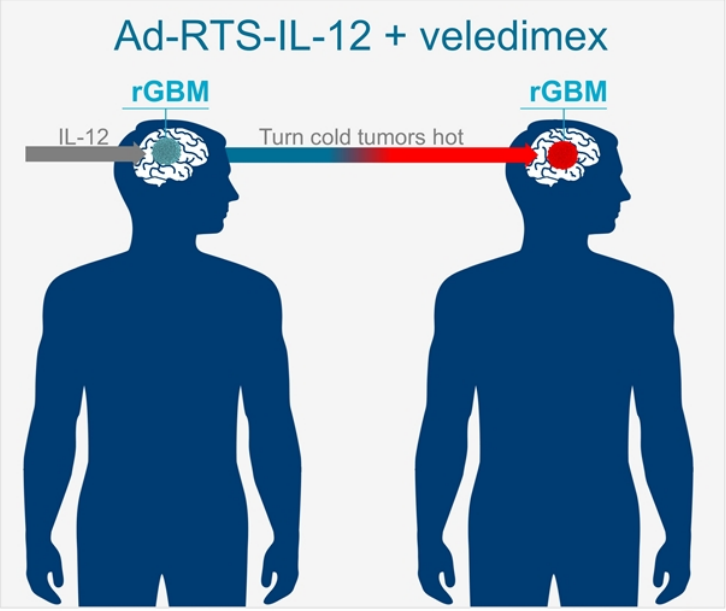
Rationale for Combination Therapy for rGBM

- Tumors **remain** HOT months after IL-12 therapy
- T-cells **traffic** deep into tumor
- **Reassuring** safety profile



Ziopharm ONCOLOGY

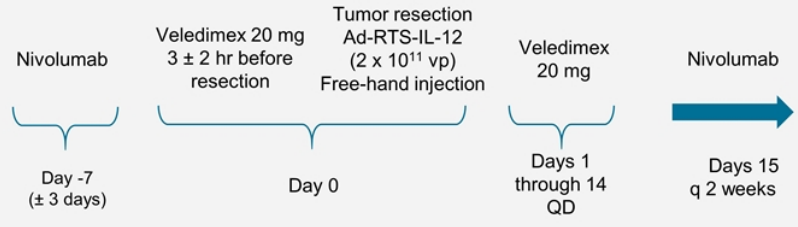
Phase 1 Trial Initiated to Evaluate Ad-RTS-hIL-12 plus Veledimex in Combination with OPDIVO® (nivolumab) to Treat Patients with rGBM

- Compelling data demonstrating that IL-12 can remodel the tumor microenvironment
- Sustained influx of $CD8^+$ T cells expressing PD-1
- Combining IL-12 with anti-PD-1 may yield even better anti-tumor responses

Up to 18 Patients

ELIGIBILITY

- Recurrent or progressive GBM
- Scheduled for resection
- Not previously treated with inhibitors of immune-checkpoint pathways



Primary objective:
Safety and tolerability

Secondary:
Optimal dose
Overall survival

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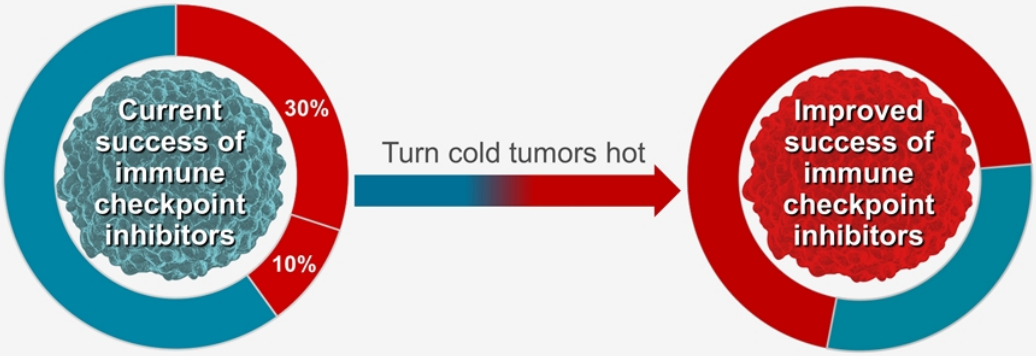
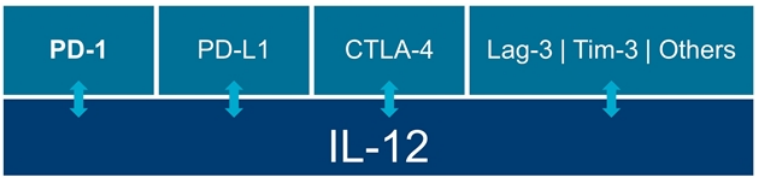
IL-12 Platform can Combine with Immune Checkpoint Inhibitors Across Oncology



Broad potential



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SLEEPING BEAUTY

A New Paradigm for Adoptive Cell Therapy

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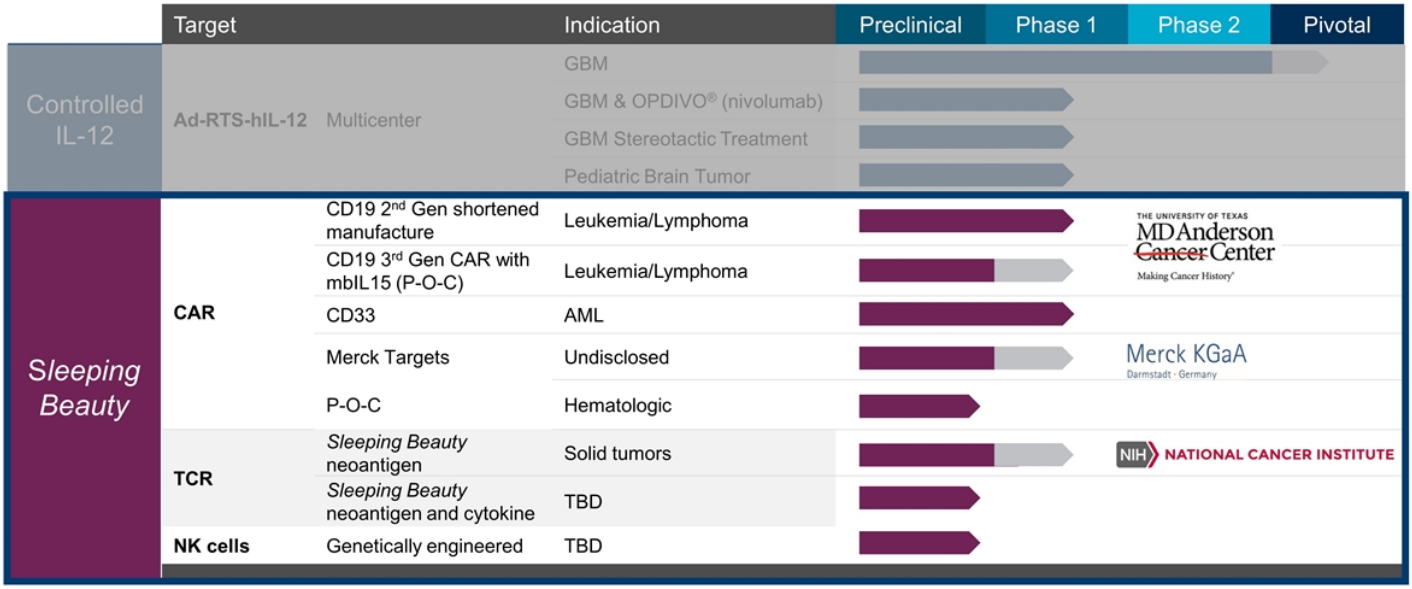
Two Platforms Drive Next Generation Immunotherapy



P-O-C = Point-of-Care

Initiated Planned

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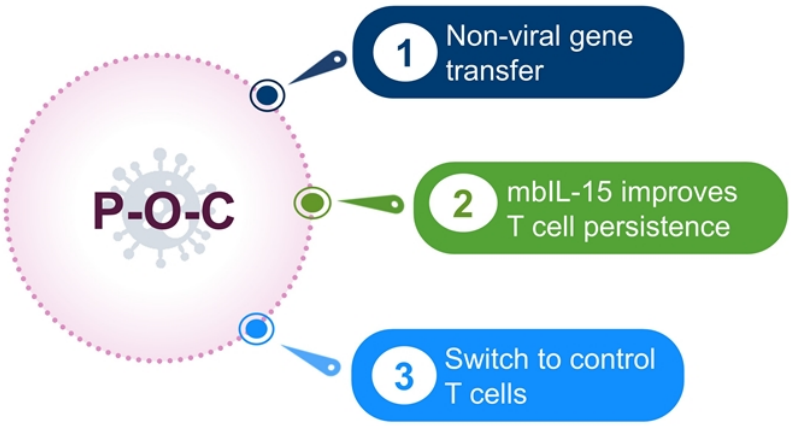
ZIOP's Vision – Scalable, Lower Cost, High-throughput Platform



Sleeping Beauty under P-O-C

- Very rapid manufacture
- Scalable process
- Avoids use of virus
- Removes need to grow T cells outside the body
- Reduces costs

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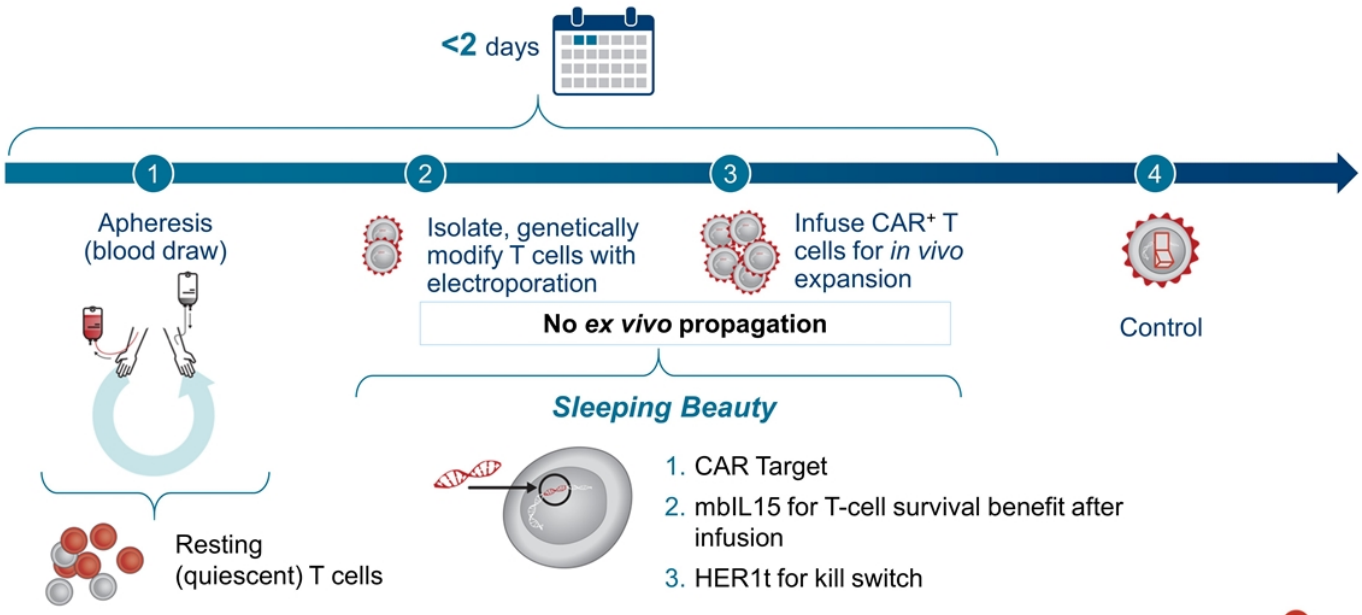
Eliminate the Complexity – P-O-C Trial to be Initiated 2018



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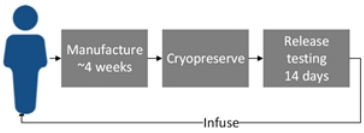
First Point-of-Care – CD19-Specific CAR+ T cells

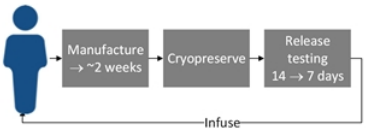
Implementing P-O-C 1, 2, 3

1st generation complete: CAR+ T cells



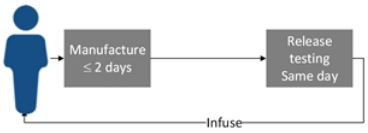
- Demonstrated *Sleeping Beauty* (SB) genetically modifies T cells safely
- ASH 2017: Long-term survival data and T-cell persistence

2nd generation ongoing: CAR+ T cells



- Shorten manufacturing and release testing of SB-modified CAR+ T cells
- ASH 2017: Interim safety, anti-tumor response, T-cell persistence

3rd generation 2018: CAR+mbIL15+Switch+ T cells



- Rapid (<2 days) manufacturing
- Eliminate need to activate, propagate T cells *ex vivo*
- ASH 2017: CAR+ T cells with mbIL15 expand *in vivo* in mice

FIRST-IN-CLASS NON-VIRAL APPROACH

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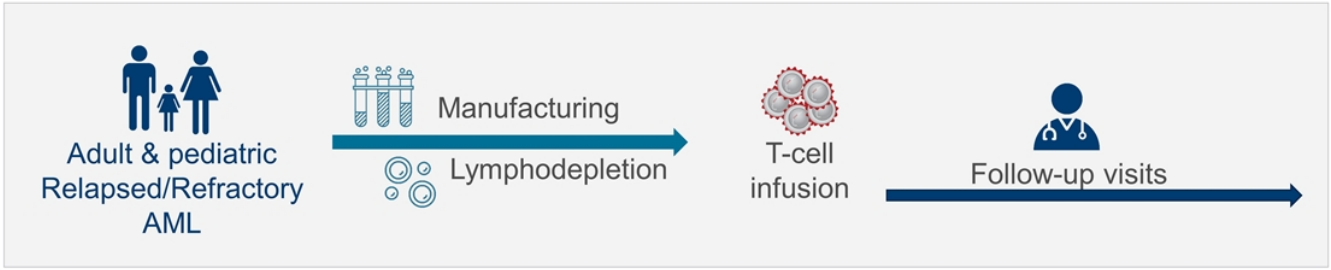
CAR+ T Cells Targeting CD33 on AML

- Trial open at MD Anderson Cancer Center to establish CD33 as a target for CAR+ T cells
- Technology employs lentivirus and kill switch
- Enrollment underway



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NCI Progressing *Sleeping Beauty* to Target Neoantigens in Solid Tumors with TCRs

2018

Preclinical Data ✓ — **CRADA** ✓ — **Clinical Protocol** ✓ — **Validation** □ — **Clinical** □

original article

Stable, Nonviral Expression of Mutated Tumor Neoantigen-specific T-cell Receptors Using the *Sleeping Beauty* Transposon/Transposase System

Drew C. Deniger[1], Anna Pasetto[1], Eric Tran[1], Maria R Parkhurst[1], Cynthia J Cohen[1], Paul F Robbins[1], Laurence JN Cooper[2,3] and Steven A Rosenberg[1]

JANUARY 2017 - ZIOPHARM and Intrexon Announce CRADA with National Cancer Institute (NCI) Utilizing Sleeping Beauty System to Generate T cells Targeting Neoantigens

NATIONAL CANCER INSTITUTE

Completed

Preparations underway for process validation

"We have used the *Sleeping Beauty* platform to generate neoantigen-specific T cells and look forward to initiating a clinical trial infusing these genetically modified T cells to target solid tumors," **said Steven A. Rosenberg, M.D., Ph.D.,** Chief of the Surgery Branch at the NCI's Center for Cancer Research, who is leading this research. "The *Sleeping Beauty* system is able to target the unique mutations that give rise to a patient's malignancy."

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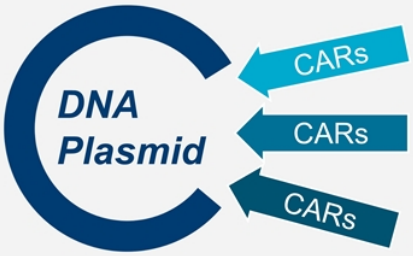
Sleeping Beauty Platform's Versatility, Multiple Targets

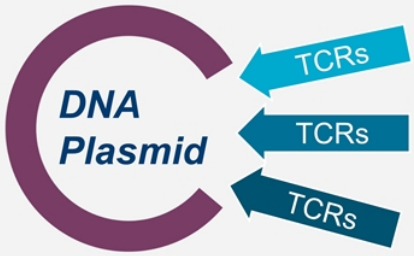


CD19

CD33

Merck KGaA: two targets

Plus others…..



Neoantigens

Sleeping Beauty reprograms T cells to target the personalized neoantigens within solid tumors

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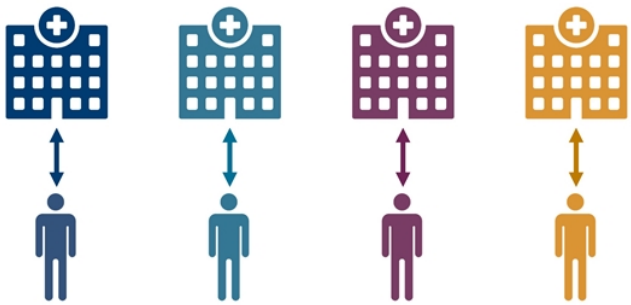
Changing the Paradigm for Manufacturing Genetically Modified T Cells

Centralized Manufacturing

Centralized production is necessary due to the use of viral-based gene transfer which is tied to the need for *ex vivo* numeric expansion

Hospital-based Manufacturing



Distributed production, *e.g.*, in blood banks, envisioned under point-of-care is now possible using non-viral-based gene transfer and undertaking *in vivo* numeric expansion

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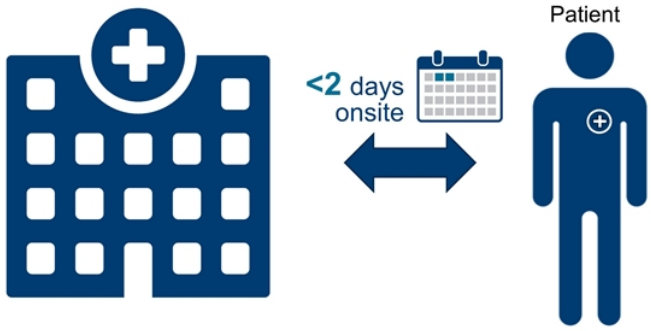
Rolling out Point-of-Care at Hospitals – First Hospital Signed Up



First Hospital Signed Up

- Hospital system holds exclusive regional license
- **Intrexon** and **Ziopharm** receive licensing fees, royalties

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The Year Ahead

Ziopharm ONCOLOGY

Two Platforms with Multiple Milestones in 2018

Controlled IL-12 with RTS®

Off to a great start

- Combination trial with nivolumab
- Stereotactic adult & pediatric trials

To be initiated

- Pivotal, randomized control trial

Sleeping Beauty

Off to a great start

- 2nd Gen. Phase 1 CAR+ CD19
- Trial evaluating CD33 as a target

To be initiated

- P-O-C Phase 1 targeting CD19
- Phase 1 w/ Merck KGaA CAR+ T cells
- NCI: File IND for Phase 1 study of SB-modified TCRs to target neoantigens

Ziopharm ONCOLOGY

Financial Update as of Sept. 30, 2017

Condensed Consolidated Balance Sheet

Cash, cash equivalents and short term investments	$84.4M
At MD Anderson Cancer Center from prepayment for programs to be conducted by the Company	$29.4M

Current resources will be sufficient to fund planned operations into the fourth quarter of 2018

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Ziopharm
ONCOLOGY
January 2018