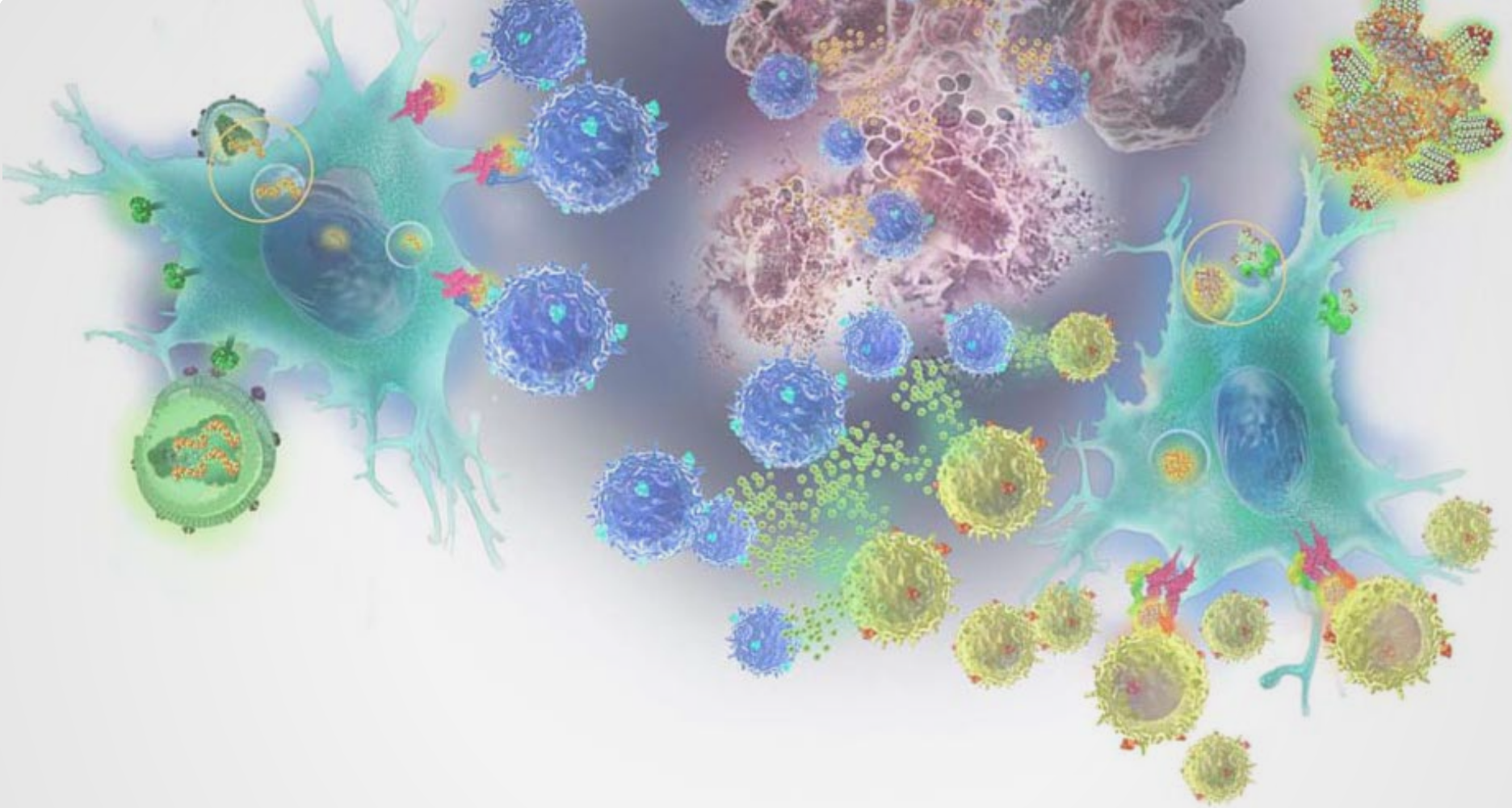
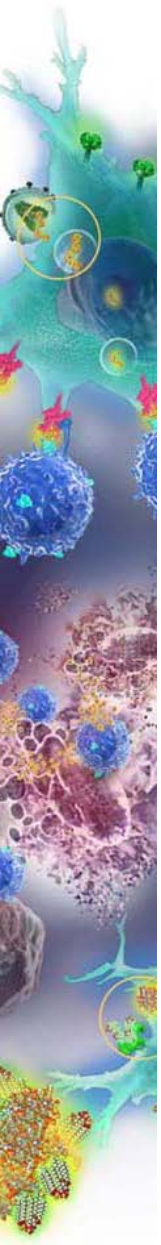


February 2017

IMMUNE DESIGN

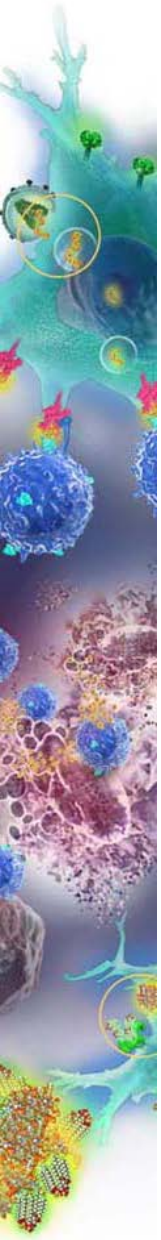


Forward-looking Statements

This presentation contains forward-looking statements with respect to, among other things, our business, financial condition, strategy and prospects, and has been prepared solely for informational purposes. All statements, other than statements of historical fact, regarding our strategy, potential future products, prospects, plans, opportunities and objectives constitute "forward-looking statements." These statements are not guarantees of future performance and involve a number of unknown risks, assumptions, uncertainties and factors that are beyond our control. Given these risks, assumptions and uncertainties, you should not place undue reliance on these forward-looking statements.

Important factors that could cause actual results to differ materially from those indicated by such forward-looking statements include, among others, our history of net losses and expected net losses for the foreseeable future, that we have no product candidates approved for commercialization and may never achieve profitability, that we will require additional capital to finance our operations, that we may not be able to successfully develop, obtain regulatory approval and commercialize our product candidates, all of which are novel and in early clinical development, and those other risks that will be set forth under the header "Risk Factors," "Note Regarding Forward-Looking Statements" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" in our periodic reports filed with the Securities and Exchange Commission, including our Quarterly Report for the period ended September 30, 2016. All statements contained in this presentation are made only as of the date of this presentation and are subject to uncertainty and changes. Except as required by law, we expressly disclaim any responsibility to update such forward-looking statements, whether as a result of new information, future events or otherwise.

Platforms and Products Targeting DCs *in vivo*



Antigen Specific (Systemic Immunization)

ZVex Delivers RNA Antigen/s (Ag) directly to patient skin dendritic cells (DCs)

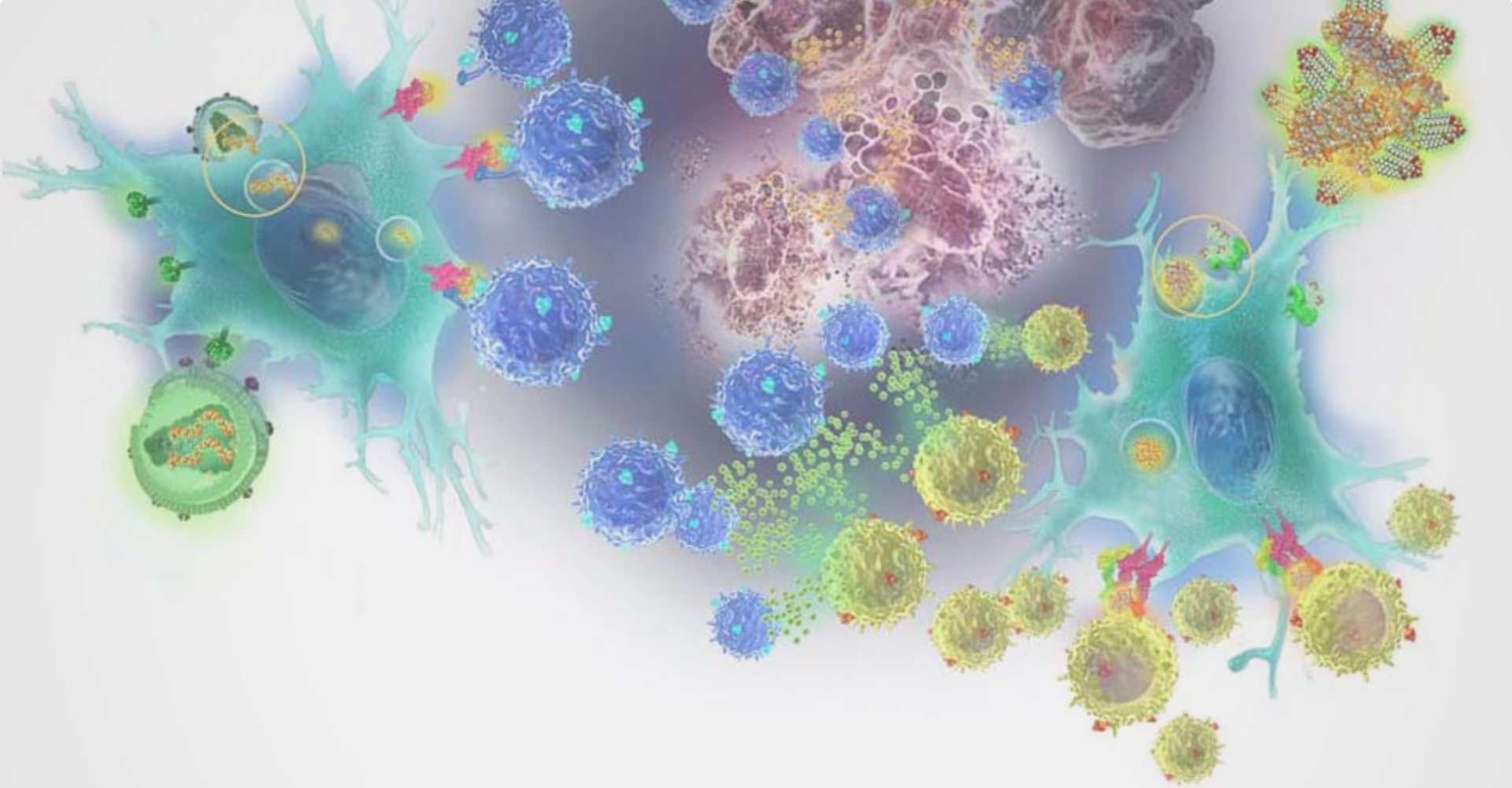
- **CMB305** — NY-ESO-1 Ag — **Sarcoma** — **Ph 1 & Ph2**
- **ZVexMulti** — Conserved Ags — Neo Ags — Pre-clinical

Antigen Agnostic (Intratumoral Immunization)

Activation of peri-tumor DCs creating immunity against residing tumor antigens

- **G100** — **Low grade follicular NHL** — **Ph 1 & Ph2**
- **ZVex IL12** — Pre-clinical

- 2017:
  - ✓ Randomized Ph2 initial readouts from checkpoint inhibitor combos
  - ✓ Outline possible registration paths (CMB305, G100) as monotherapies and/or combinations with checkpoint inhibitors
- Off-the-shelf and potential for personalized products in orphan tumors
- External validation/collaborations (Genentech, Merck)



PRODUCT DEVELOPMENT

CMB305 – *FIRST PRODUCT FROM ANTIGEN SPECIFIC APPROACH*

IMMUNE DESIGN

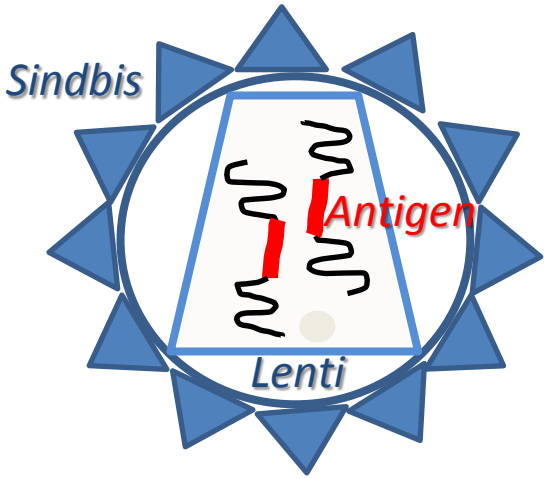
ZVex® Platform:
First *in vivo* DC Targeting RNA Gene Delivery Lentiviral Vector

Generating Tumor Antigen-specific T cells *in vivo*

Sindbis envelope provides selective *in vivo* DC targeting

Integration-deficient + replication-incompetent lentivirus backbone for safety

Lack of prior immunity to Sindbis allows for multiple dosing



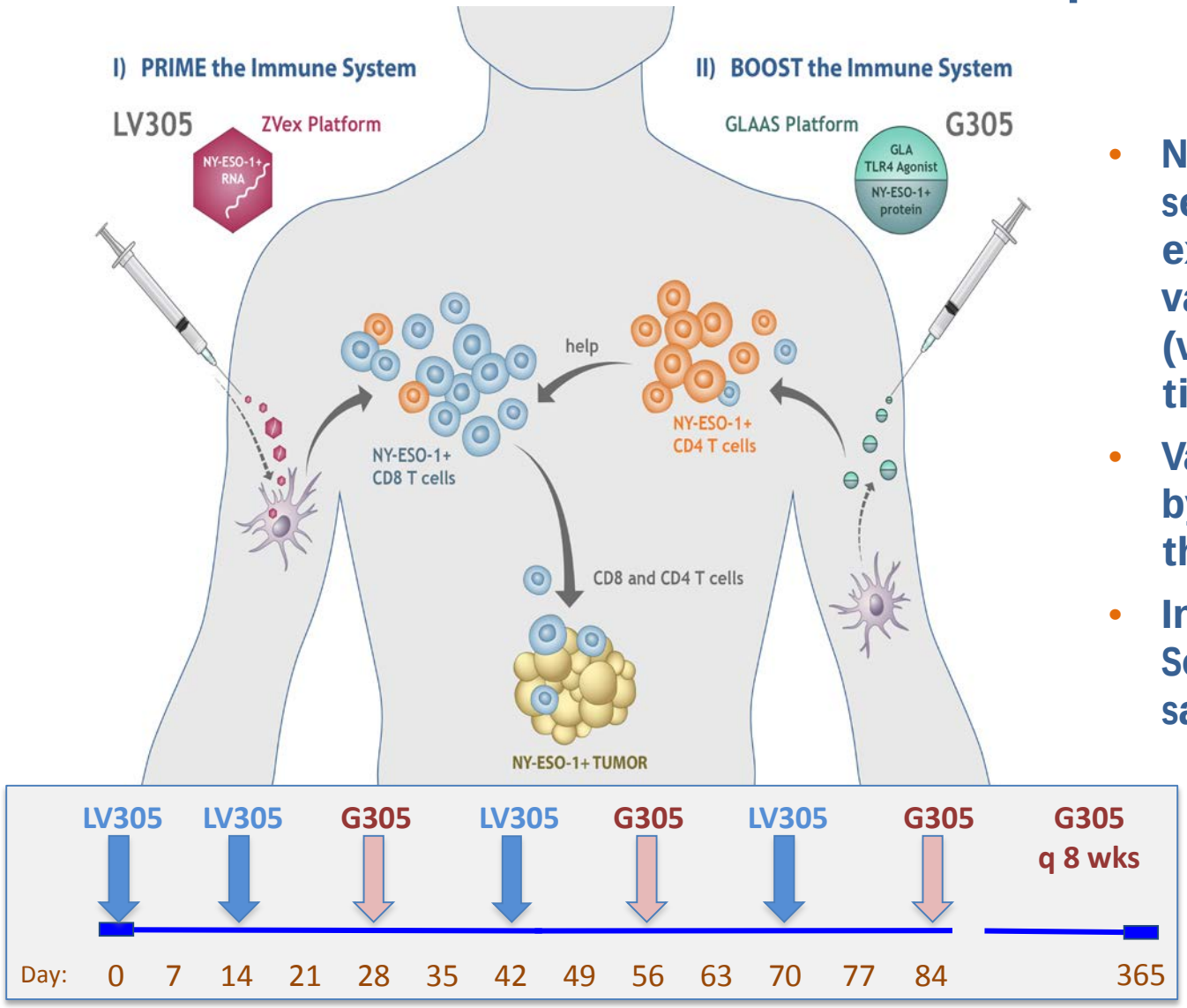
ZVex

CMB305
First ZVex product delivering NYESO1 RNA to DCs *in vivo*

ZVexMulti
Next-gen vector delivering multiple antigens + increased immunogenicity

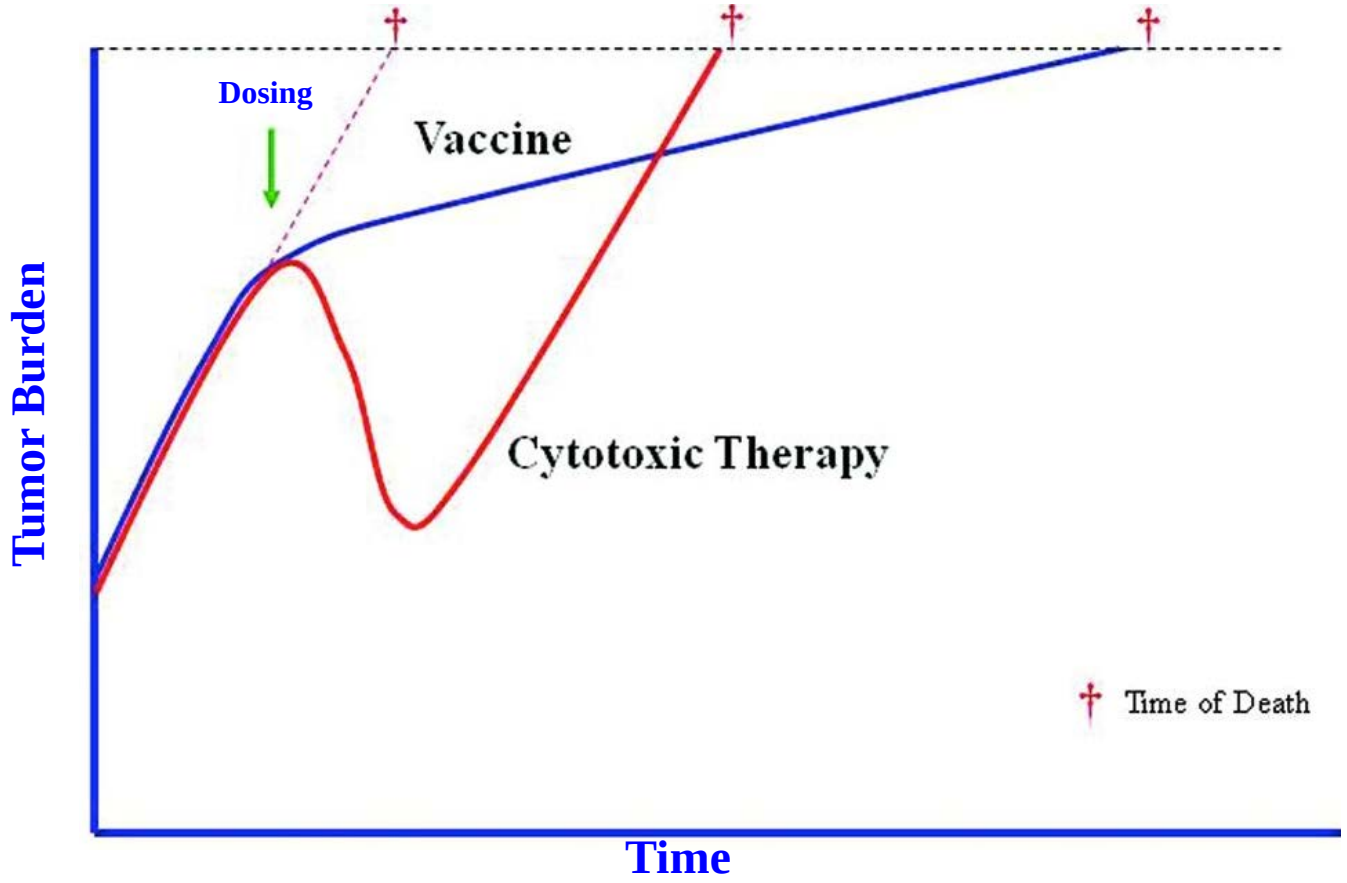
Odegard et al., J Immunother 2015; Tareen et at., Mol Ther 2014

CMB305:
LV305 “Primes” G305 “Boosts” NY-ESO-1-specific T cells



- **NY-ESO-1: selectively expressed in various cancers (vs. healthy tissue)**
- **Validated target by Adoptive T cell therapies**
- **Initial indication: Soft tissue sarcoma (STS)**

Cancer Vaccines: Focus on OS and QoL vs. ORR



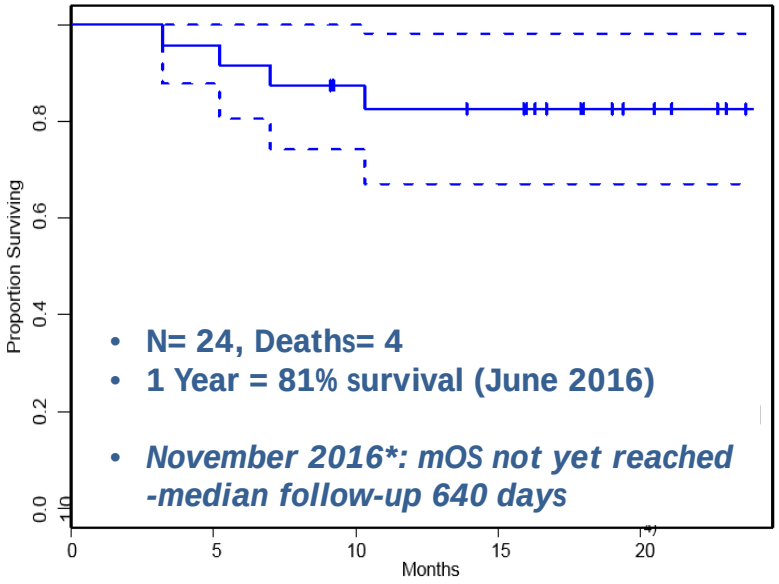
- **Cytotoxic therapy may provide ORR but not impact OS**
- **Immunotherapy may provide improved OS and QoL w/o ORR**

Madan, et al. Oncologist 15:969-75, 2010 – prostate cancer example.

LV305 and CMB305 Ph1 Studies
Data presented at ASCO and in June 2016

LV305 (n=24)

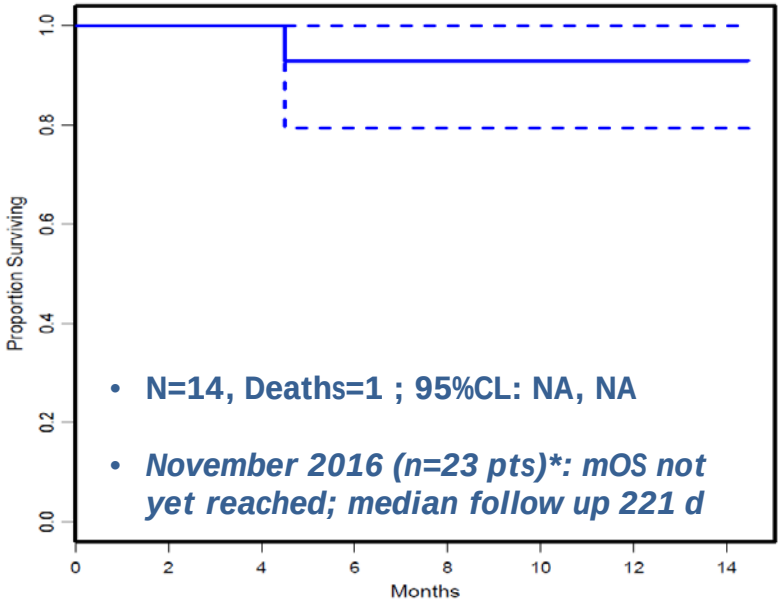
- **0% Grade 3/4 AEs, no SAEs, no DLTs**
- **50% pts** had NY-ESO-1 T cell responses
- **58% Best Clinical response -**1PR (4%) and 13 SD (54%)
  - PFS: 4.6 mo
  - Overall Survival (OS):



- **N= 24, Deaths= 4**
- **1 Year = 81% survival (June 2016)**
- ***November 2016*: mOS not yet reached -median follow-up 640 days***

CMB305 (n=14)

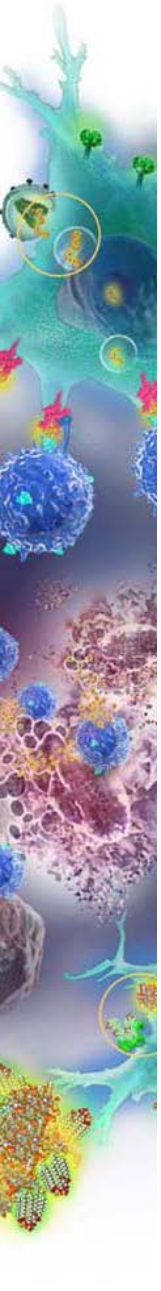
- **0% grade 3/4 AEs, no SAEs, no DLTs**
- **50% pts** had NY-ESO-1 T cell responses
  - Stronger than those of LV305 + Ab
- **71% Best Clinical Response -**SD 10/14 (71%)
  - PFS: 5.5 months
  - Overall Survival (OS):



- **N=14, Deaths=1 ; 95%CL: NA, NA**
- ***November 2016 (n=23 pts)*: mOS not yet reached; median follow up 221 d**

Unless otherwise noted, all data from Somaiah et al, poster presentation at ASCO 2016 annual meeting
**Based on investigator reports*

IMMUNE DESIGN



Current ≥2nd line of Treatments in metastatic STS

Agent/Study (basis of approval)	Line (metastatic)	mPFS (months)	mOS (months)	Safety (Grade 3/4)
Trabectedin vs. *Dacarbazine* (PFS)	>2 prior chemo	**4.2** vs *1.5*	**12.4** vs *12.9*	Neutropenia (37%), thrombo-cytopenia (17%), anemia (14%), and transient ALT elevations (26%)
Pazopanib vs. *Placebo* (PFS)	1-4 prior systemic	**4.7** vs *1.6*	**12.5** vs *10.7*	Fatigue (14%), diarrhea (5%), hypertension (7%), anorexia(6%)
Eribulin vs. *Dacarbazine* (OS)	>2 prior chemo	**2.6** vs *2.6*	**13.5** vs *11.5*	Neutropenia (35%) and leukopenia (10%)
LV305[1,*]	At least one prior	**4.6**	**Not reached** Median follow up 21.3 mos (81% 1y surv.)	**0%**
CMB305[1,*]	At least one prior	**5.5**	**Not reached** Median follow up 7.4 mos (93% 1y surv.)	**0%**

- First line metastatic treatment approval for Olaratumab in combo w/Dox (Olara+dox vs. dox):
  - mPFS of 8.2mo vs 4.4mo/mOS of 26.5mo v 14.7mo
  - Grade 3/4 toxicity: Neutropenia (20%), Infusion-Related Reactions (14%)

[1]LV305=24 pts and CMB305 = 14pts. Data as of ASCO 2016 and June 8, 2016 webcast presentation
**LV305 and CMB305 are investigational agents and are not approved for any indication*

IMMUNE DESIGN

CMB305: Potential Development Paths

- **First indication in STS (Orphan designation) w/ 2 Potential labels**

Label #1

CMB305 Single Product (*n=25*)

- ENROLLMENT COMPLETED: Ongoing safety and OS follow-up
- INITIAL DATA: Targeting *ASCO 2017* and onwards
- POTENTIAL REGISTRATION PATH: Randomized trial vs. SOC

Label #2

CMB305 + Atezolizumab (*n=40*)

vs

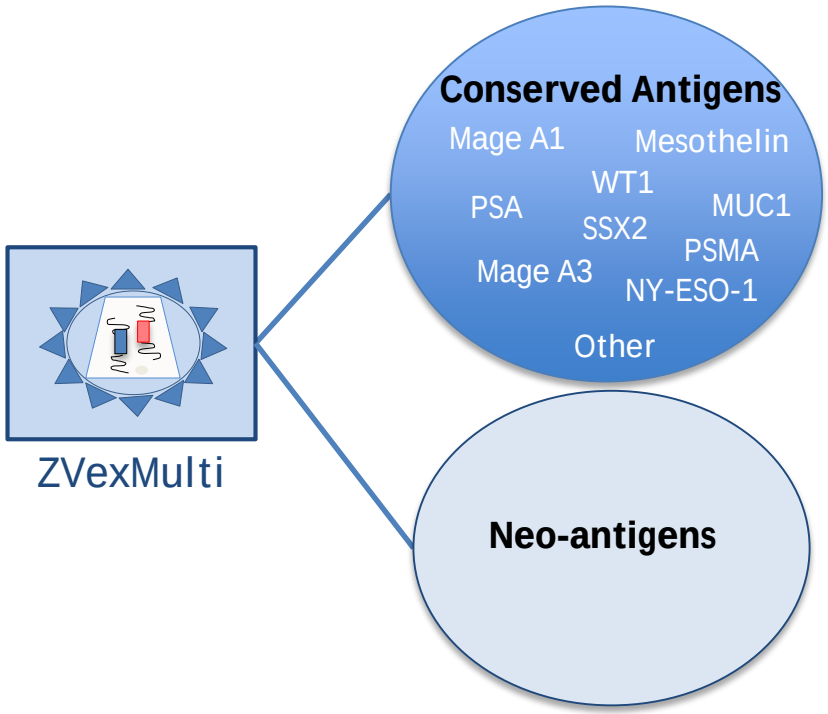
Atezolizumab (*n=40*)

- ENROLLMENT ONGOING: Endpoints are safety, OS, PFS, and ORR
- INITIAL DATA: Interim data of first 36 patients targeted for*ESMO 2017* and onwards
- POTENTIAL REGISTRATION PATH: Expansion/Modification of ongoing randomized study

- **Potential life-cycle opportunities:**
  - Solid tumors (beyond STS): breast, melanoma, bladder, ovarian, NSCLC, other
  - Hematologic: Multiple Myeloma

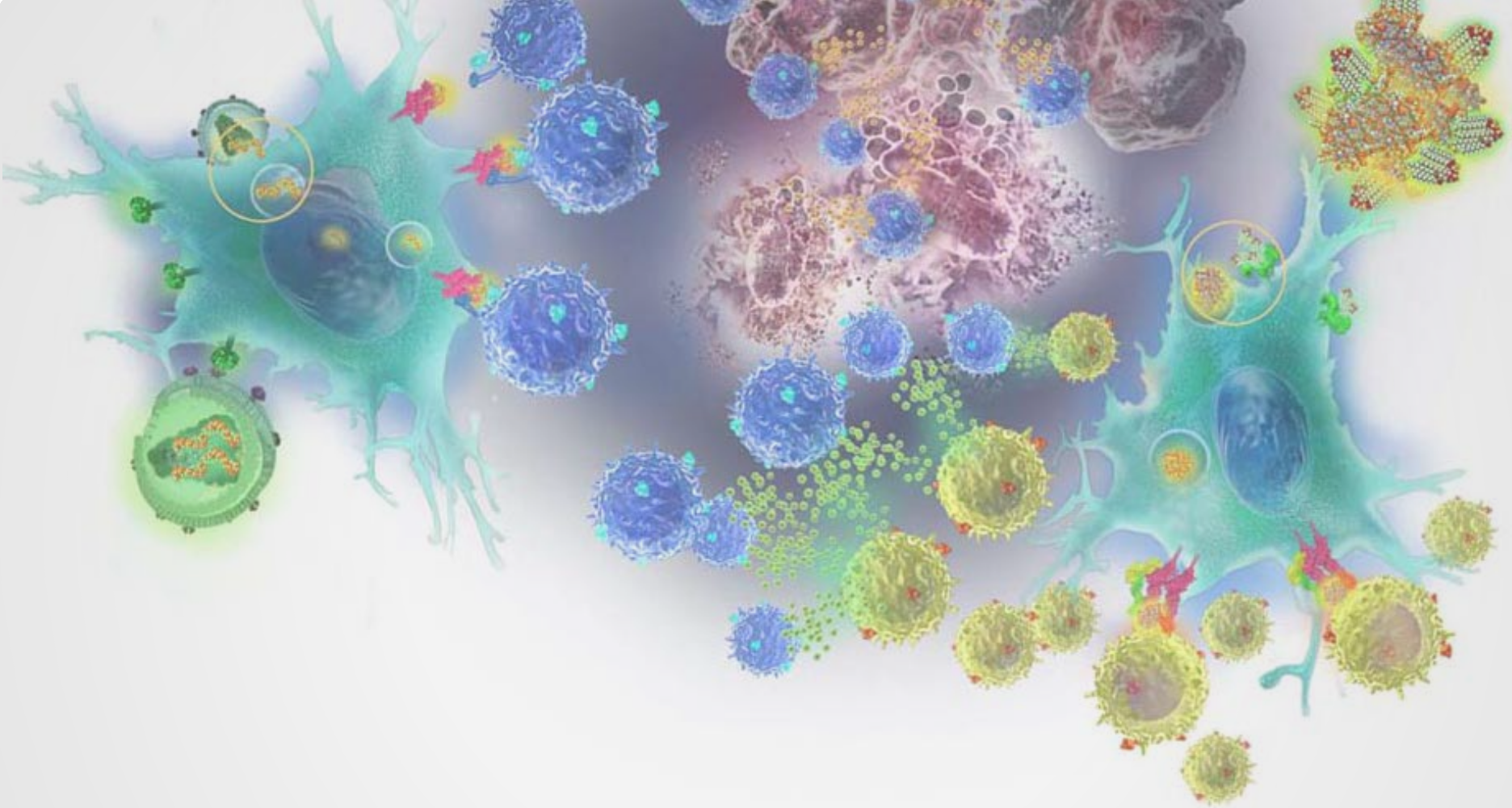
Next-Gen ZVex Product: ZVexMulti Desired Properties

- **Deliver multiple antigens within one product addressing antigenic competition**
  - Conserved and/or neo-antigens
    - Multiple conserved antigens ("Off the shelf") ➔ multiple tumors
      ➔ tumor organ specific
    - Multiple neo-antigens ➔ personalized product
- **Potential for increased immunogenicity via vector improvements & payload**



- **Any "conserved" or viral antigens could be combined**
- **Multi-antigen product designation planned for Ph1 in 2018**

- **Bypasses need for imperfect informatics algorithms trying to select the "right" neo-epitopes**
- **Pre-clinical**



PRODUCT DEVELOPMENT

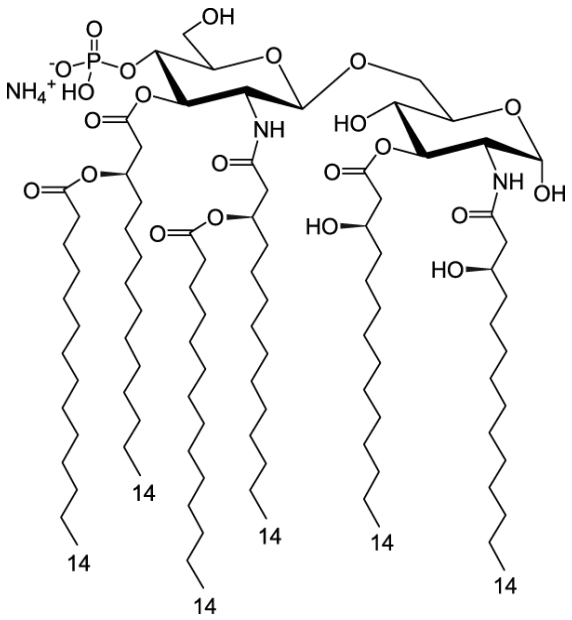
G100 - *FIRST PRODUCT FROM THE ANTIGEN AGNOSTIC APPROACH*

IMMUNE DESIGN

G100: Potent Activator of DCs for *in situ* Immunization

Designed to activate the immune system in the tumor micro-environment

- Synthetic TLR4 agonist, chemically synthesized
- Activates directly DCs leading to subsequent activation of T, B, and NK cells
- Expanding favorable safety database in >1000 individuals



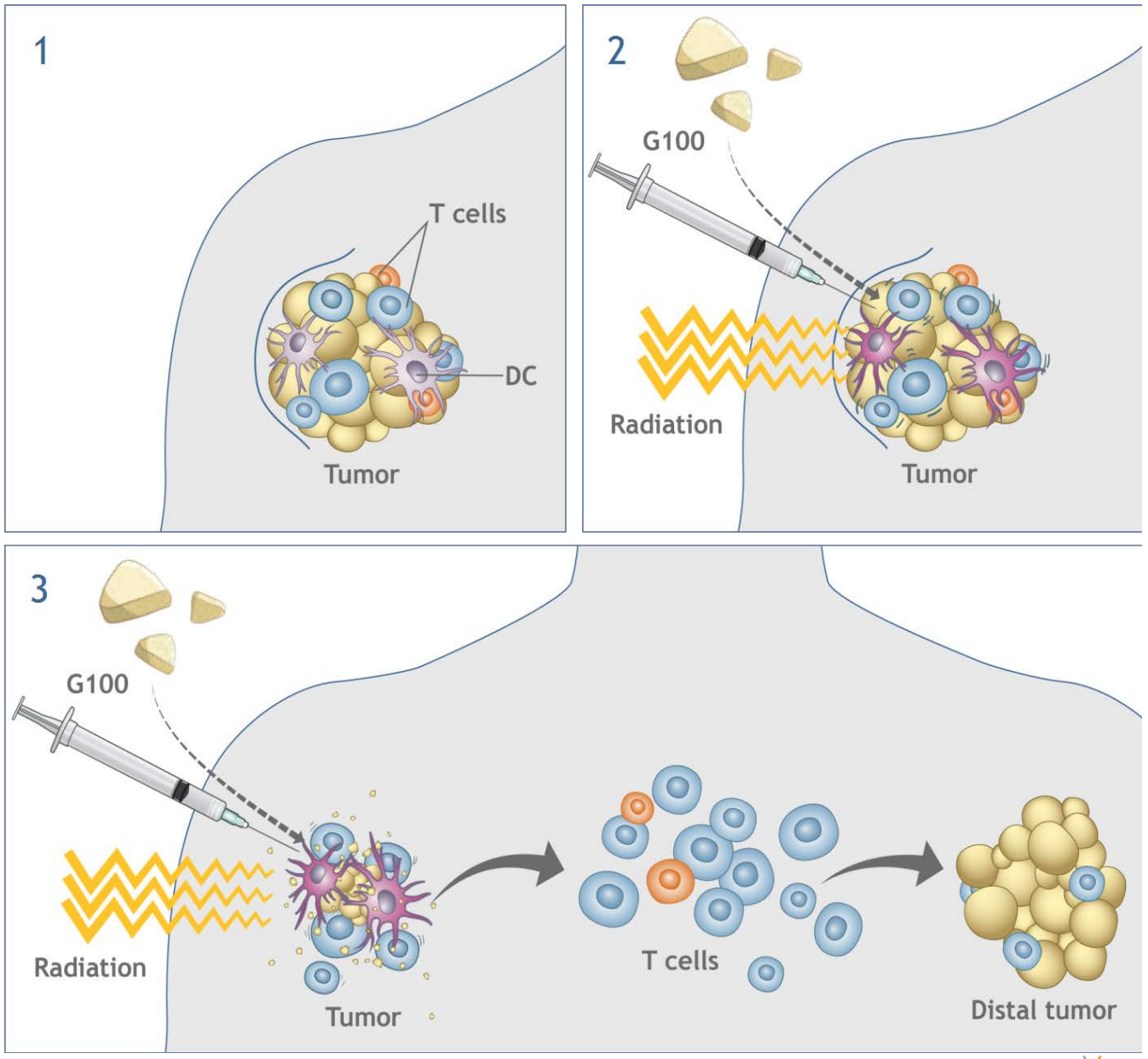
GLA

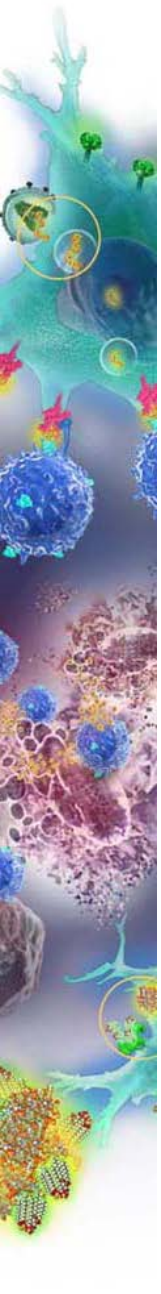
G100 safety and efficacy:

- Pilot Ph1 in Merkel Cell Carcinoma (MCC)
- Ongoing evaluation in a randomized Phase 2 in follicular NHL

G100 is GLA formulated in a stable emulsion (SE)

G100: *in situ* (intratumoral) immunization





G100 Clinical Benefit in MCC Pilot Ph1
Data presented at ASCO 2016

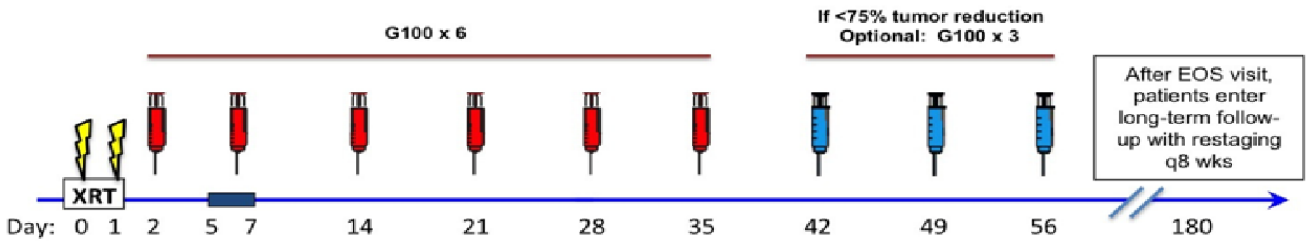
Favorable safety, 50% ORR per protocol, responses ongoing >17 months; n=10

Safety	• **No** treatment-related SAEs observed – One Grade 3 of mild skin breakdown/ulceration at injection site and biopsy – Mostly local toxicity (injection-site reactions)
Efficacy	• **Biomarker** • T cell dynamics: translocation from stroma to tumor • Antigen spreading • Makes the tumor micro-environment "hot" • **Efficacy** • Loco-regional (n=3) • 2/3 relapse free (>27 mo) • 1 CR and 1 PRs (inc surgery and/or XRT) • Metastatic (n=7) • 2/7 pts have durable PRs (17+ and 18+ months)

Source: Bhatia et al, poster presentation at ASCO 2016 annual meeting.

G100 Development in NHL

- Studied as Single product and in combo with anti-PD-1 agents



Ph1 Dose Escalation and Expansion

Dose escalation (3x3 design): 5,10, and 20 ug of G100 + Rad Rx (n=9)

Expansion of G100 20ug +Rad Rx (n=9 pts)

Ph2 Randomized (n=24)

G100 10ug + Rad Rx + Keytruda

VS

G100 10 ug + Rad Rx

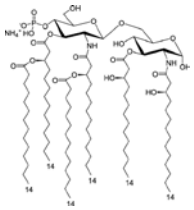
- ENROLLMENT: Dose escalation completed
- READOUT: ORR and Abscopal, Safety, IG
- INITIAL DATA: *ASCO 2017* and onwards

- ENROLLMENT: Ongoing
- READOUT: ORR and Abscopal, Safety, IG
- INITIAL DATA: *ASH 2017* and onwards

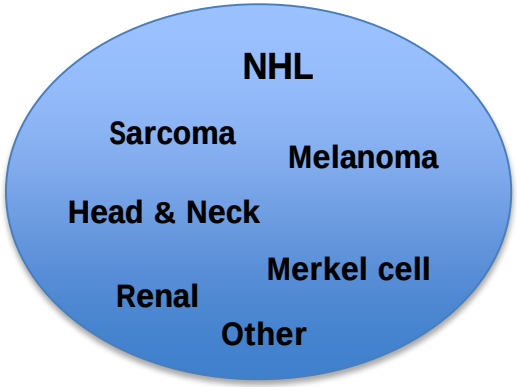
- Registration path will depend on data from monotherapy vs. combo

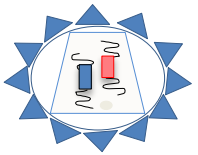
Potential of Intratumoral Immunization

- **G100's mechanism of action offers significant flexibility**
  - No need to pre-select antigens
  - Activates pre-existing DCs and peri-tumor immune responses
  - Not limited to external lesions/potential to treat any accessible tumor
- **ZVex-IL12: leveraging ZVex for potential intratumoral therapies**
  - ZVex's ability to deliver IL12 RNA (ZVexIL12) to DCs in the TME has shown robust anti-tumor effect in multiple models[1]



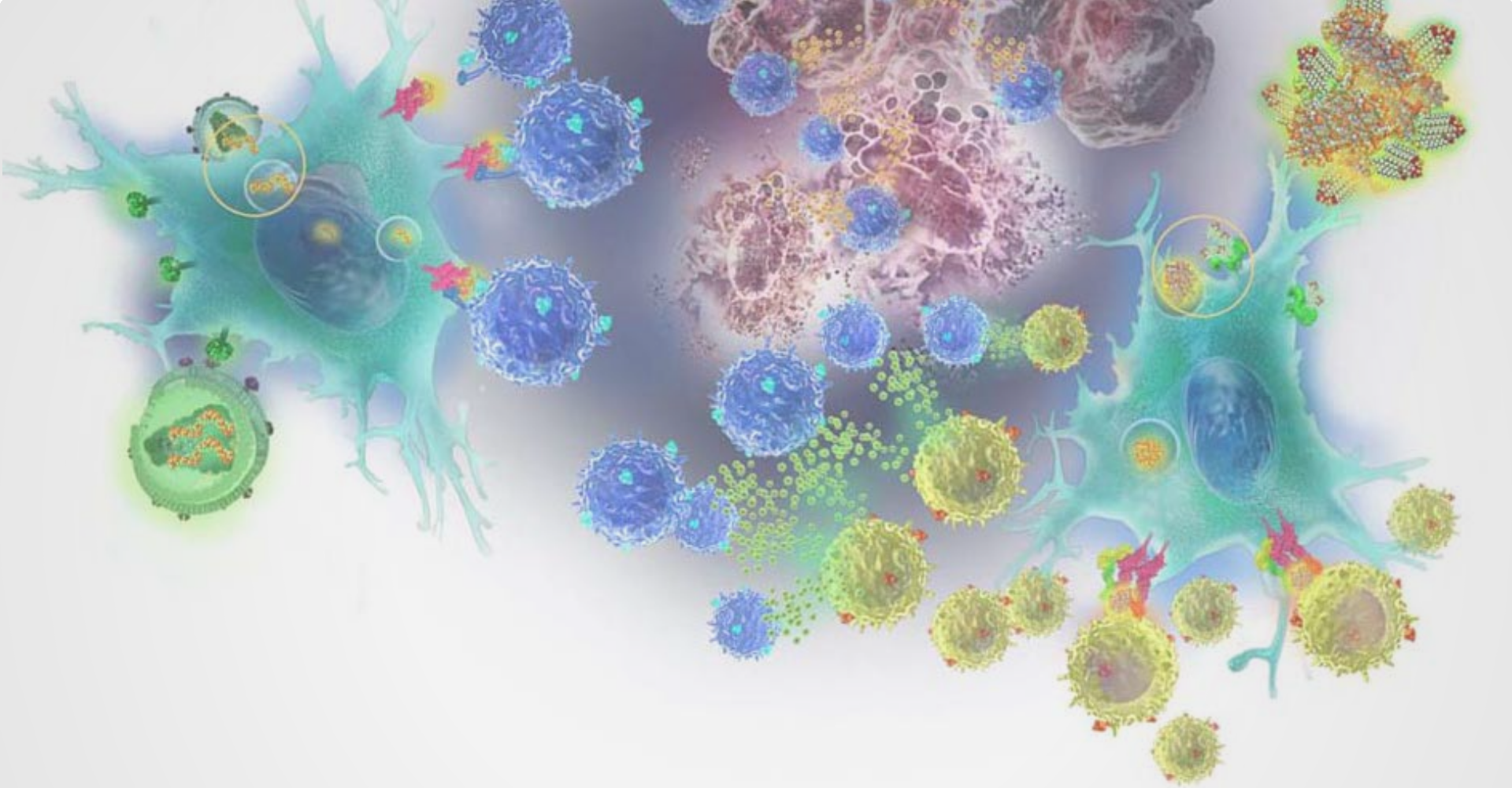
G100





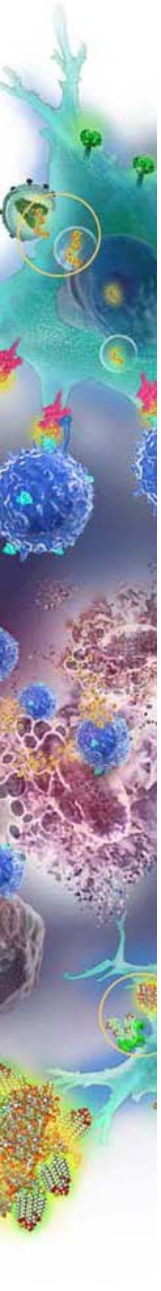
ZVexIL12

[1]Data presented at AACR 2016 Annual Meeting



PIPELINE, TIMELINES, FINANCE, AND TEAM

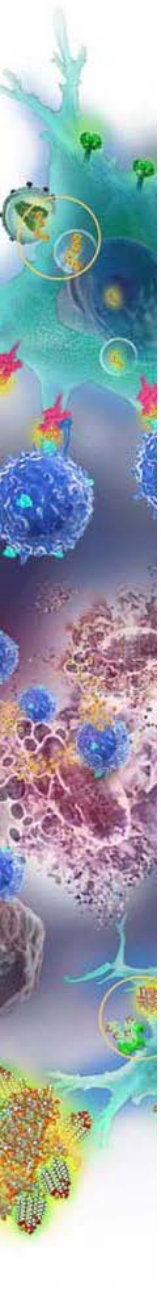
Pipeline, News Flow, and Financial Highlights



PROGRAM	INDICATION	Precl	Phase 1/1b	Phase 2	News*
CMB305	STS		Monotherapy		ASCO '17 n~23pts
			Combination w/ Atezoluzimab		ESMO '17 n=40 pts
					Reg trial pot. start '18
ZVexMulti	TBD Conserved Antigens				IND 2018
	TBD Neo-Antigens				
G100	NHL		+ XRT +/- pembrolizumab		ASCO '17 n=9 (mono) ASH '17 n=24 (combo)

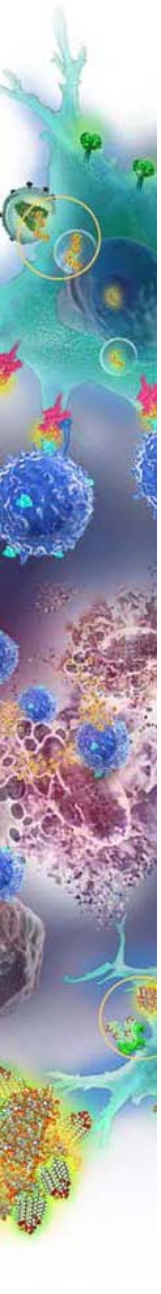
- Cash as of September 30, 2016 — $112.5 million
- Expected cash runway — 2H 2018
- Total shares outstanding — ~25 million

*Dates and deliverables are based on current expectations and targeted meetings; meeting presentations are subject to acceptance



Team: Experienced and Proven Leadership

		Prior Experience
Carlos Paya, MD, PhD President and Chief Executive Officer	President Vice President	élan Lilly
Stephen R. Brady, JD, LLM Executive Vice President, Strategy & Finance	Vice President Corporate Development	PROTEOLIX
Wayne Gombotz, PhD Chief Development Officer	Vice President Senior Director	OMEROS immunex
Jan H. ter Meulen, MD, DTM&H Chief Scientific Officer	Executive Director	MERCK Research Laboratories
Sergey Yurasov, MD, PhD Senior Vice President, Chief Medical Officer	Senior Vice President Associate Vice President	CLOVIS ONCOLOGY Lilly
Frank J. Hsu, MD Vice President, Head of Oncology	Chief Medical Officer Senior Medical Director	Zyngenia genzyme
Christopher Whitmore, CPA Vice President, Finance & Administration	Senior Director Finance Corporate Controller	AcelRx Pharmaceuticals, Inc SANGAMO



Team: Exceptional Board and Advisors

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**Nobel Laureate, §National Academy of Sciences, ° Institute of Medicine of the National Academies*