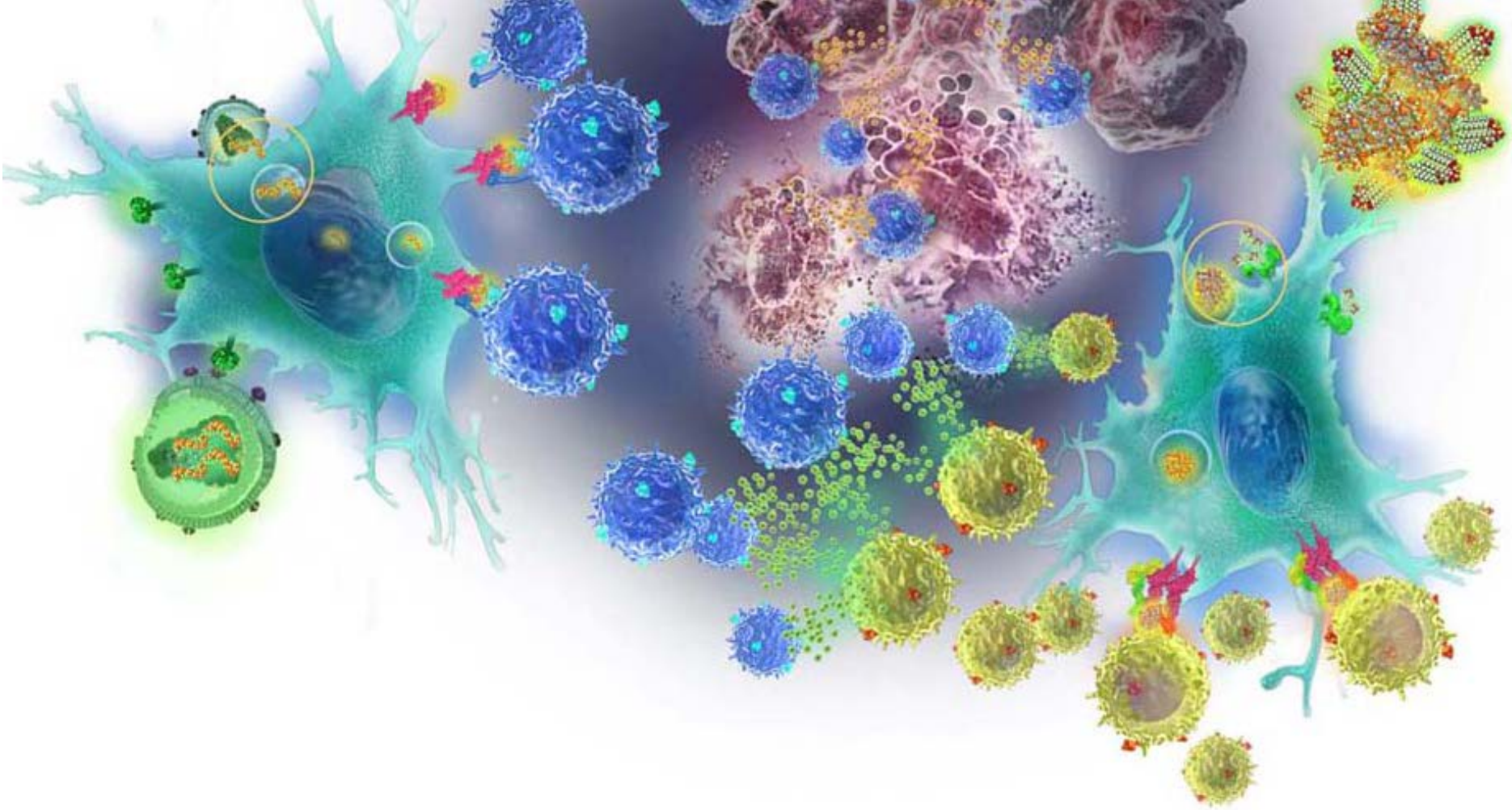


IMMUNE DESIGN

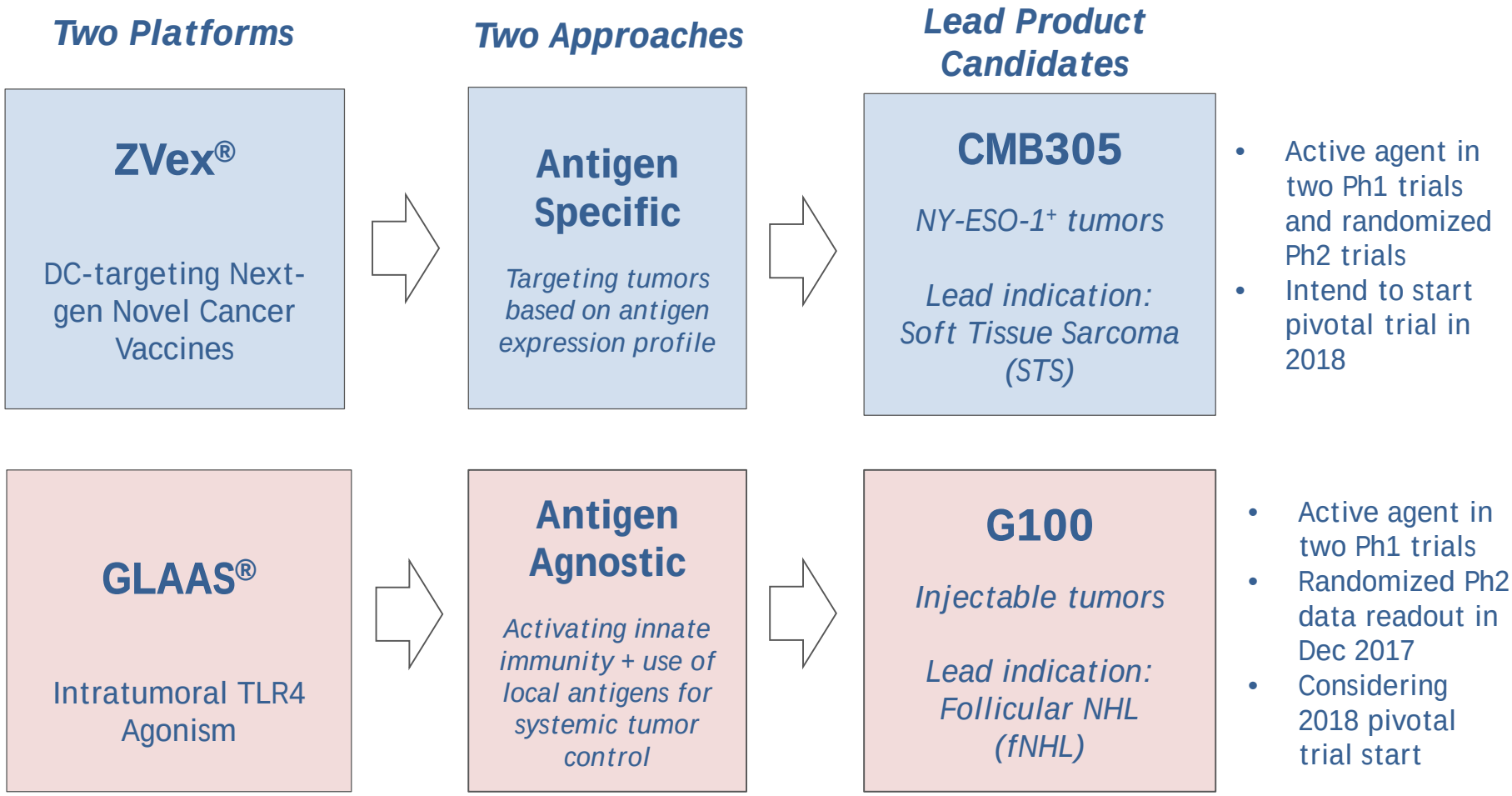
Harnessing the Immune System to Fight Cancer

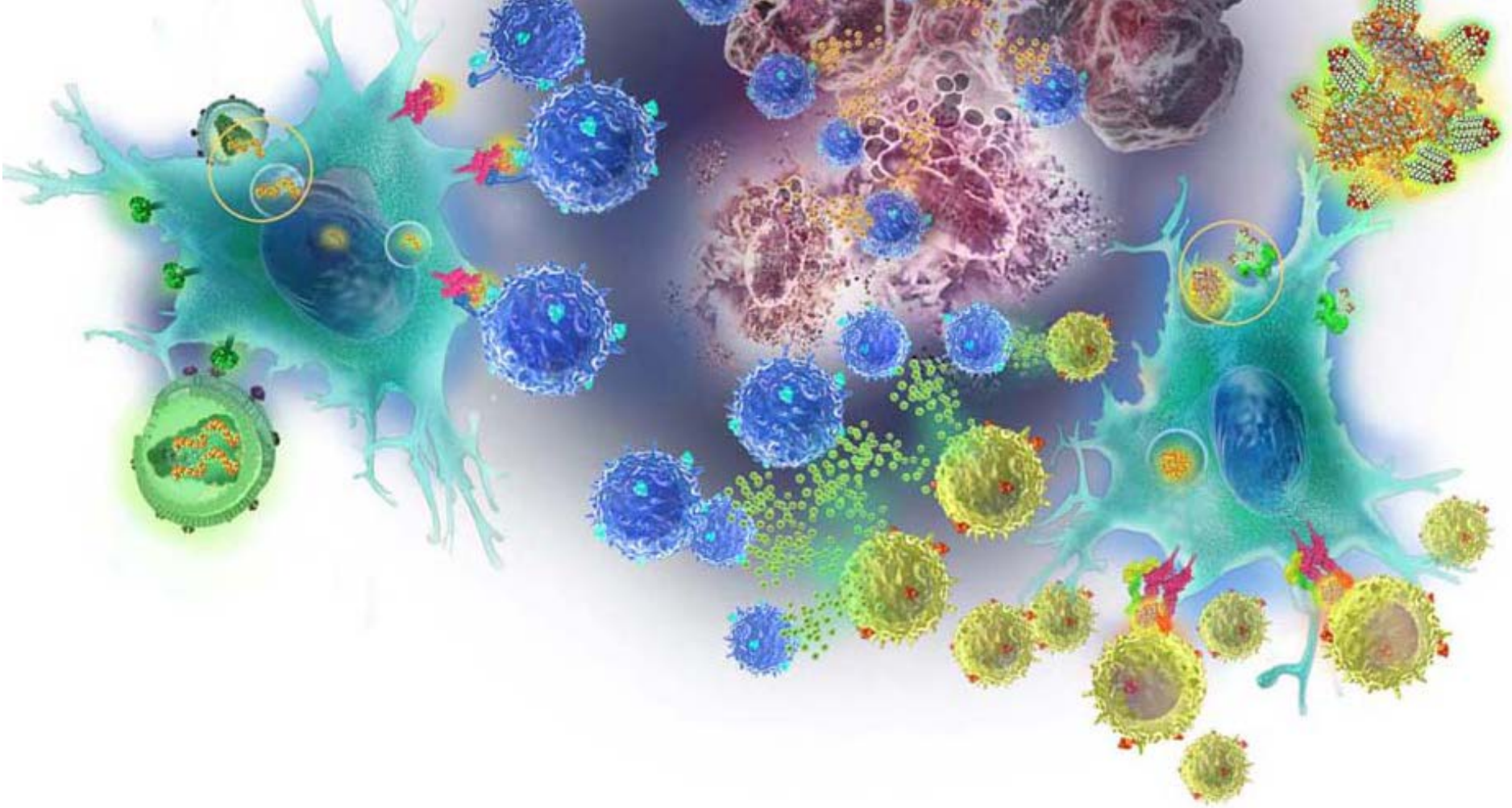
Forward-looking Statements

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 June 30, 2017. 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.

Two Immuno-oncology Platforms and Lead Programs



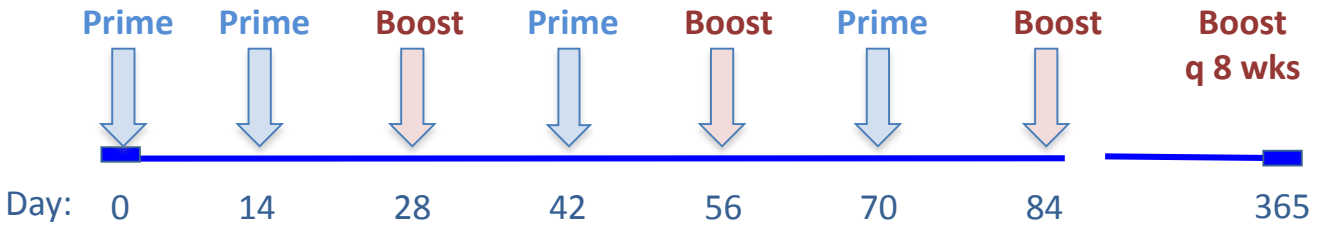


CMB305 & LA51

NEXT-GEN PRIME-BOOST CANCER VACCINES

Prime-Boost Cancer Vaccine Targeting NY-ESO-1^{+}

CMB305:

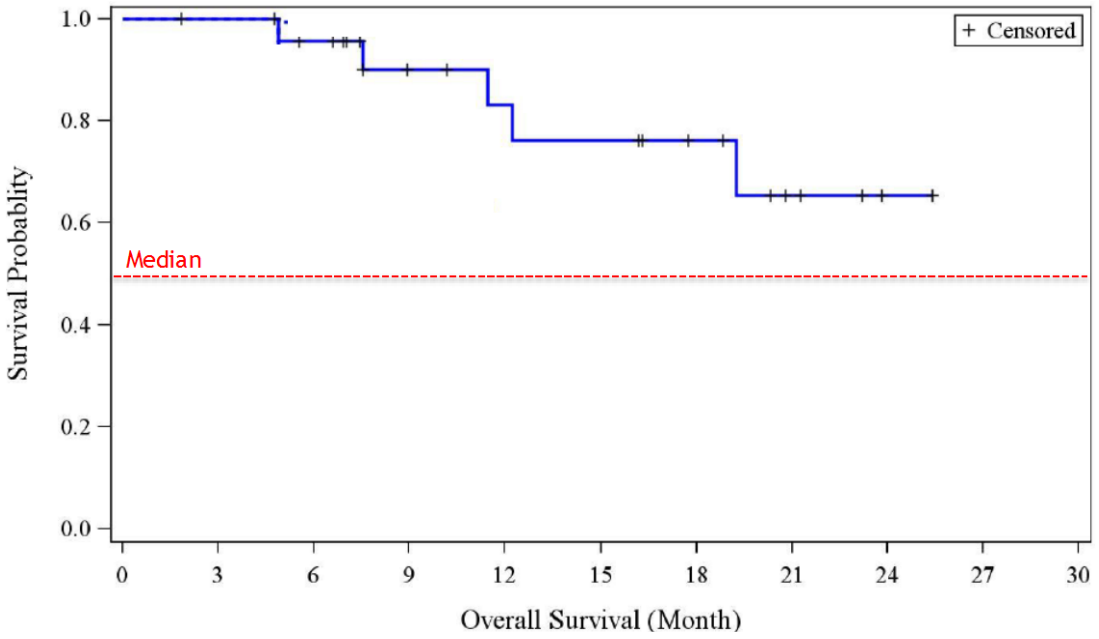


- Designed to address shortcomings of previous efforts in cancer vaccines
- Prime (LV305) and Boost (G305) individually validated in separate Ph1 trials
- **CMB305 Monotherapy Single Arm Ph1 in STS** (ASCO 2017):
  - Meaningful Overall Survival (OS) difference vs. historical chemotherapy data
  - NY-ESO-1 immune response induced by the vaccine linked to clinical benefit
  - Safe
- **CMB305 Combination with Tecentriq® (atezolizumab) Randomized Ph2 in STS** (Interim analysis-ESMO 2017):
  - Greater clinical benefit (ORR and stable disease) in the CMB305+atezo arm than atezo arm
  - Higher NY-ESO-1 immune response observed in the CMB305+atezo arm than atezo arm
  - No new safety signals in either arm
- Lifecycle: other NY-ESO-1^{+} tumors

CMB305 Monotherapy Single Arm in STS (ASCO 2017) mOS Not Yet Reached; Very Favorable Safety

STS patients n=25 (all NY-ESO-1+)	
14 synovial, 9 MRCL, 2 spindle	
recurrent locally advanced, relapsed and/or metastatic with limited tumor burden (<10 cm)	
92% metastatic, 92% prior chemotherapy (52% ≥2 prior lines)	
56% disease progression at study start	
Median duration of observation: 11.4 mos	
Median OS [95% CI], mos	NA [12.3, NA]
12 mos OS Rate, %	83.1
18 mos OS Rate, %	76.2
SD, pt (%)	16 (64)
DCR, pt (%)	16 (64)
Median PFS, mos, 95% CI	4.7 (2.1-7.8)
6 mos PFS Rate, %	36.4
>50% of progressing pts had tumor arrest	

March 31, 2017 data cut



Standard Therapy for 2nd Line STS		Standard Therapy for 2nd Line Synovial Sarcoma	
Study	mOS	Study	mOS
Pazopanib[1]	12.5 months	METASARC[4]	11.7 months
Eribulin[2]	13.5 months		
Trabectedin[3]	12.4 months		
Nivolumab + ipilimumab[5]	14.3 months		
Nivolumab[5]	10.7 months	Pemrolizumab[7]	11.3 months

[1] van def Graaf, et al., 2012, [2] Schoffski, P. et al, 2016, [3] Demetri, G. et al, 2016, [4]Savina, et al., 2017, [5]D'Angelo, et al., ASCO 2017, [7]Burgess, et al., ASCO 2017

CMB305 and Atezolizumab Combination in STS
Randomized Ph2 Interim Analysis (ESMO 2017)

Study Design:

Atezolizumab (arm A) n=43	
Safety run-in n=6	Stratified by histology n=37

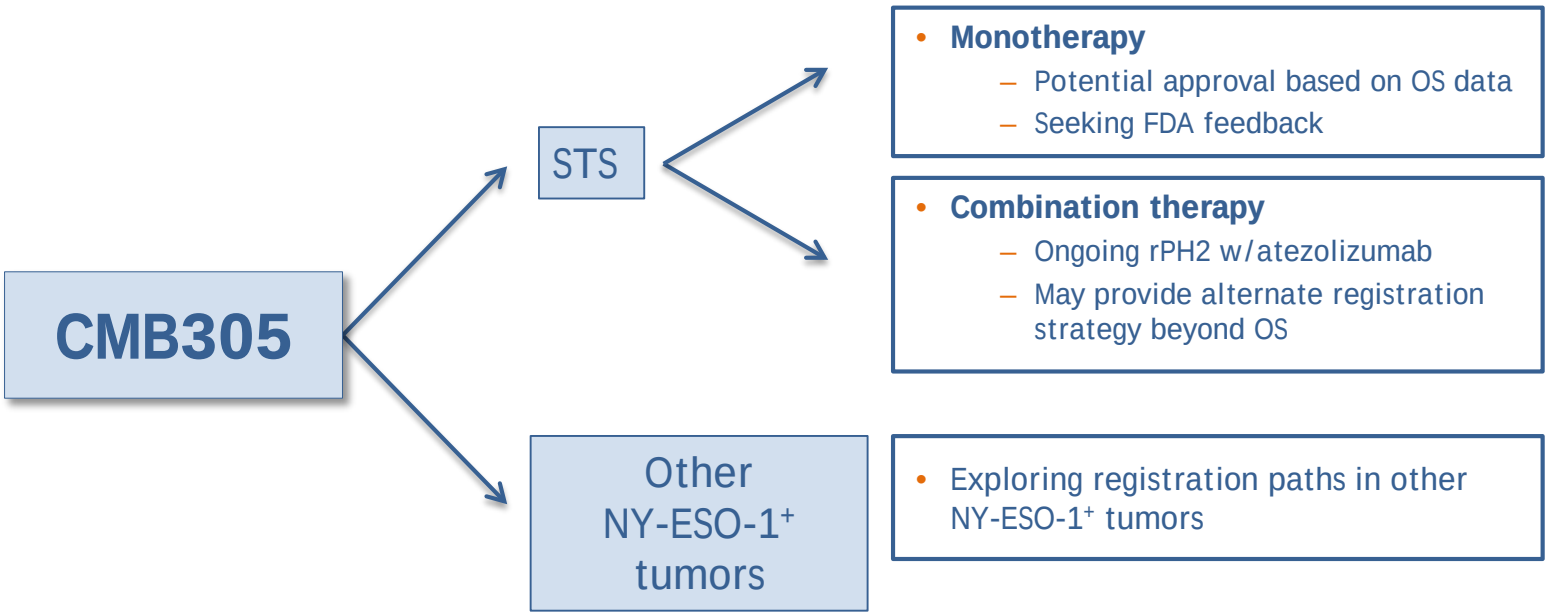
CMB305 + Atezolizumab (arm C+A) n=45	
Safety run-in n=7	Stratified by histology n=38

Outcomes	Interim Analysis (n=36)		Safety Population (n=88)	
	A (n=18)	C+A (n=18)	A (n=43*)	C+A (n=45*)
Median Observation, mos	8.9	7.7	5.1	5.3
Median PFS, mos (95% CI)	1.4 (1.3-1.9)	2.6 (1.4-2.8)	Not reported	Not reported
PFS Rate 6 mos (%)	16.7	16.7	Not reported	Not reported
Partial Response (%)	0	1 (5.6%)	0	3** (6.8%)
Disease Control Rate (%)	5 (27.8%)	11 (61.1%)	16 (38.1%)	25 (56.8%)
Time to Treatment (mos)**	6.3	9.0	Not reported	Not reported

*1 pt in each Arm did not have post baseline tumor assessment; **1 patient with unconfirmed PR

- Despite more advanced patients on arm C+A, there were partial responses and higher disease control rate observed; OS is immature
- Arm C+A induced a more robust anti-NY-ESO-1 immune response that may be associated with better OS
- Baseline and on treatment PD-L1 expression is low and restricted to tumor immune cells;
  - Evidence of CD8 tumor infiltrating lymphocytes (TILs) with an increased infiltration on arm C+A

CMB305 Potential Development Paths & Opportunity



Tumor Type (US Only Incidence)	NY-ESO-1+ tumors
Synovial Sarcoma 570	95%
MRCL 1,230	80%
NSCLC 222,500	11-25%
Melanoma 87,110	24-45%
Ovarian 22,440	14-43%

Addressable Market (new cases/year in US)

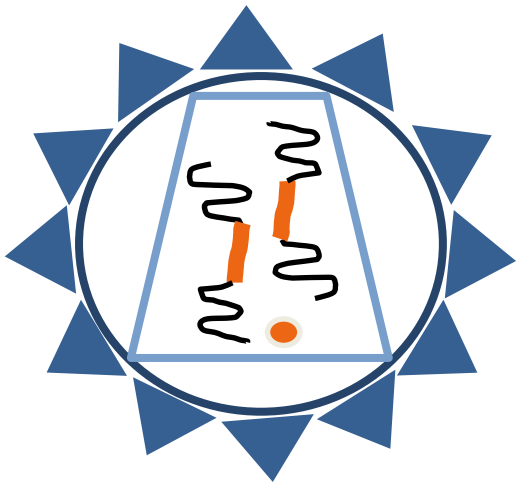
Current Develop.	Total
1,625	~48,000 to ~102,000
Potential ~46,000 to ~100,000	

https://seer.cancer.gov/statfacts/; http://www.cta.lncc.br/index.php; Jungbluth et al., 2001b; Jungbluth et al., 2001a; Nicholaou et al., 2006; Hudolin et al., 2013; Gjerstorff et al., 2013; Demirovic et al., 2010

LA-51: Next-gen ZVex Product

Designed for Multiple Antigens and a More Immunogenic Vector

- Expression of **multiple conserved antigens**
- **Addresses antigen competition** within DCs via manufacturing process
- Potential for increased immunogenicity via vector improvements and immune enhancers
- Targeting 2018 IND



ZVex

Potential

Multiple Conserved Antigens

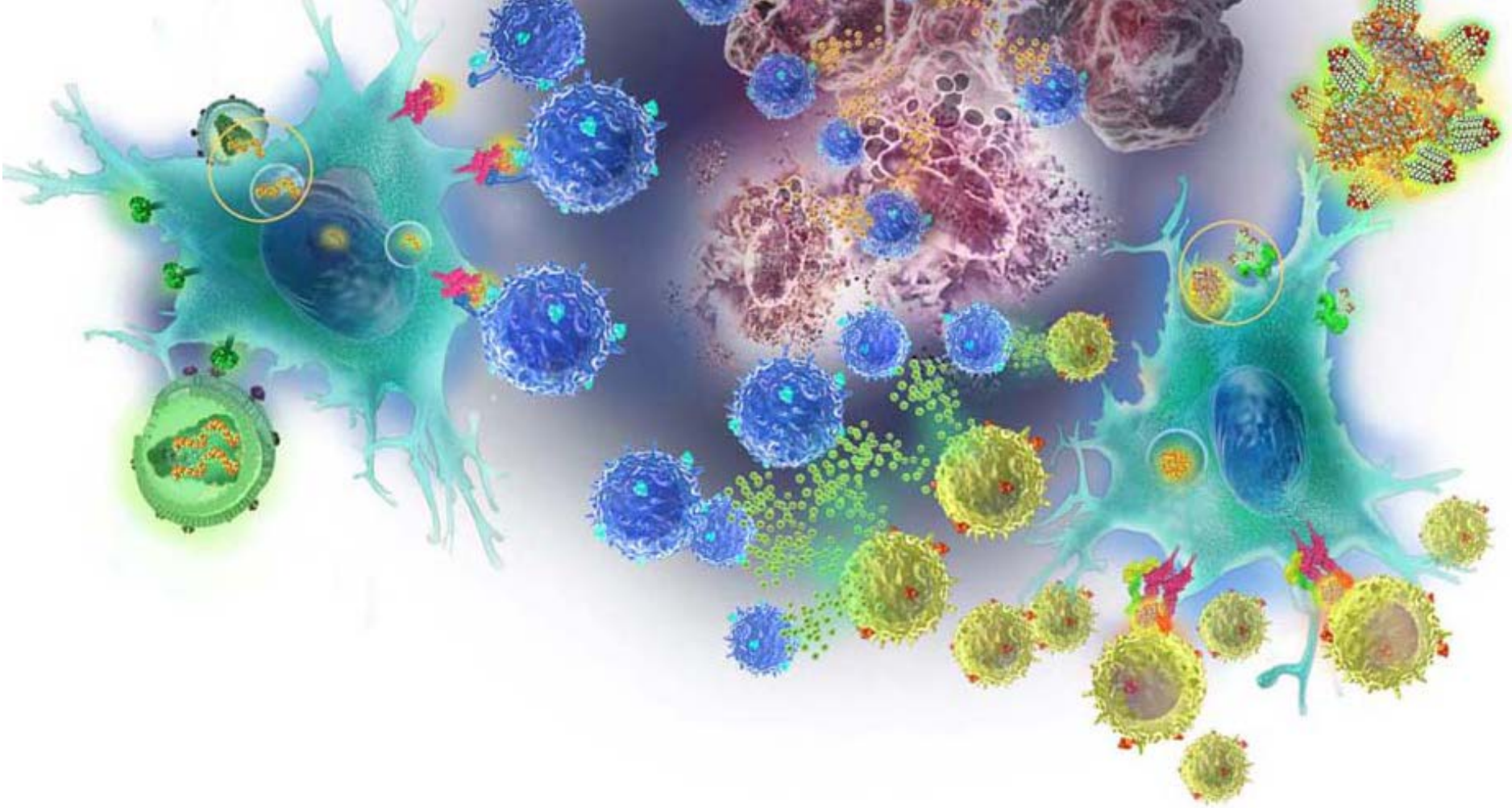
Mage A1 WT1 Mesothelin PSMA MUC1

Mage A3 PSA SSX2 NY-ESO-1 Other

- Any "conserved" or viral antigens could be combined
- Include immune activators

Neo-Antigen Field

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

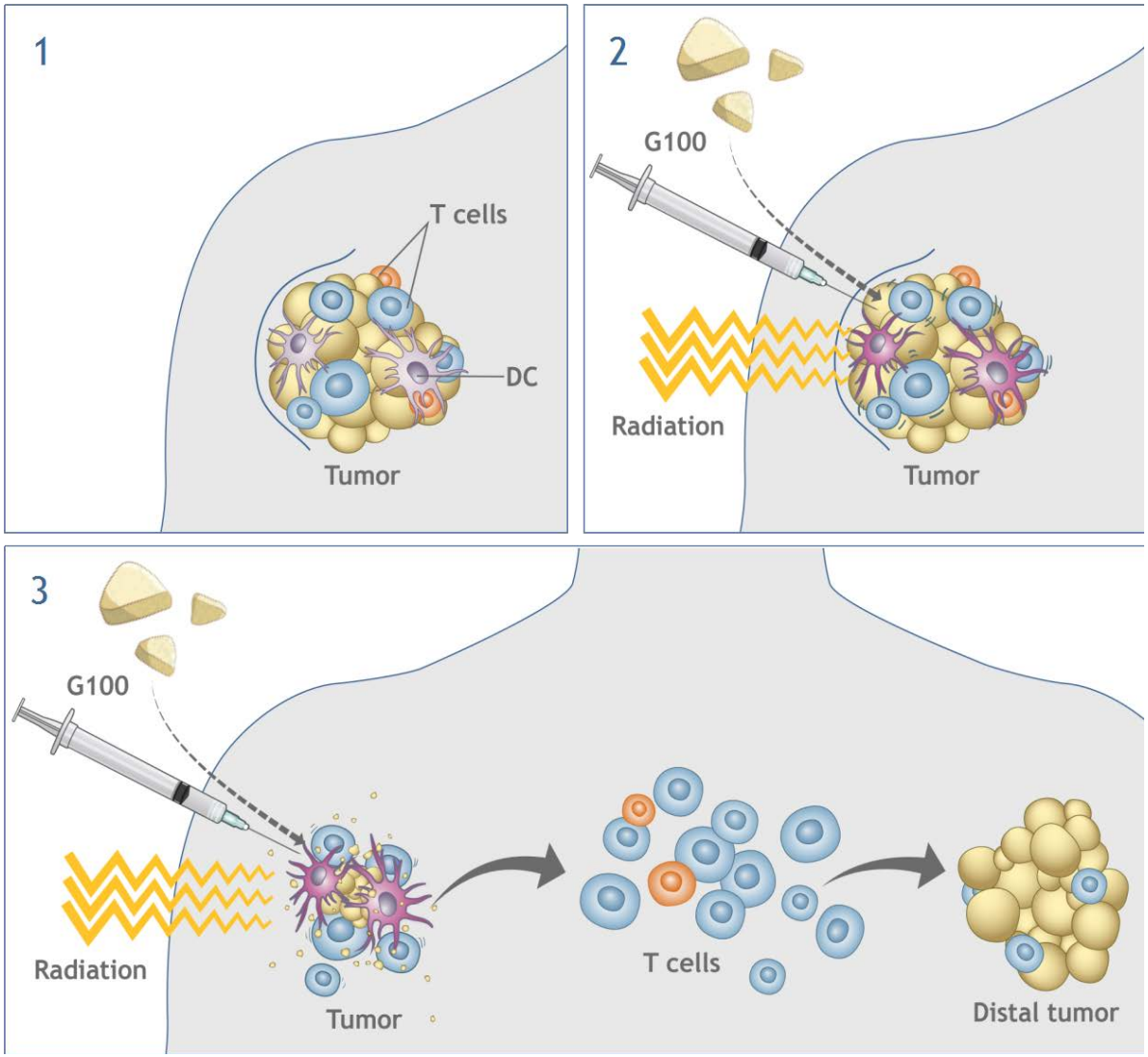


G100

INTRATUMORAL IMMUNIZATION IN FOLLICULAR NHL

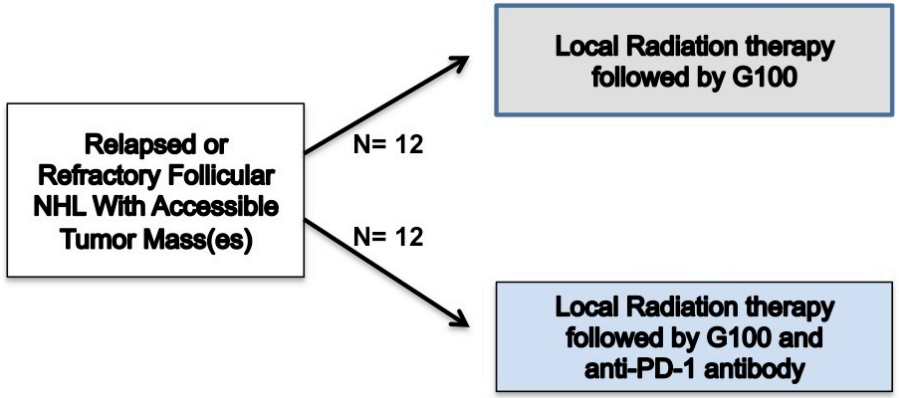
G100: *in situ* (intratumoral) Immunization

Act Locally – Treat Systemically

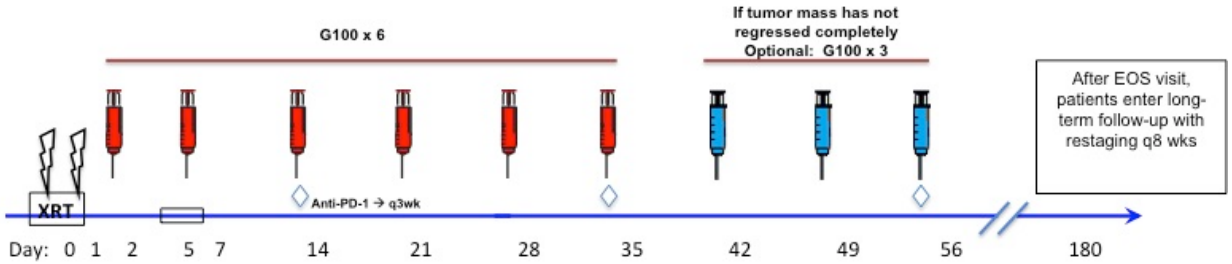


1. Target any accessible tumor
   - activate peri-tumor DCs to enhance antigen presentation
   - attract immune cells
   - activate pre-existing T and NK cells
2. Leverage local XRT to release tumor antigens and activate STING and IFN-I
3. Designed for local tumor control + systemic immunity to control distant, non-treated tumors

Potent Intratumoral Immunization in Follicular NHL

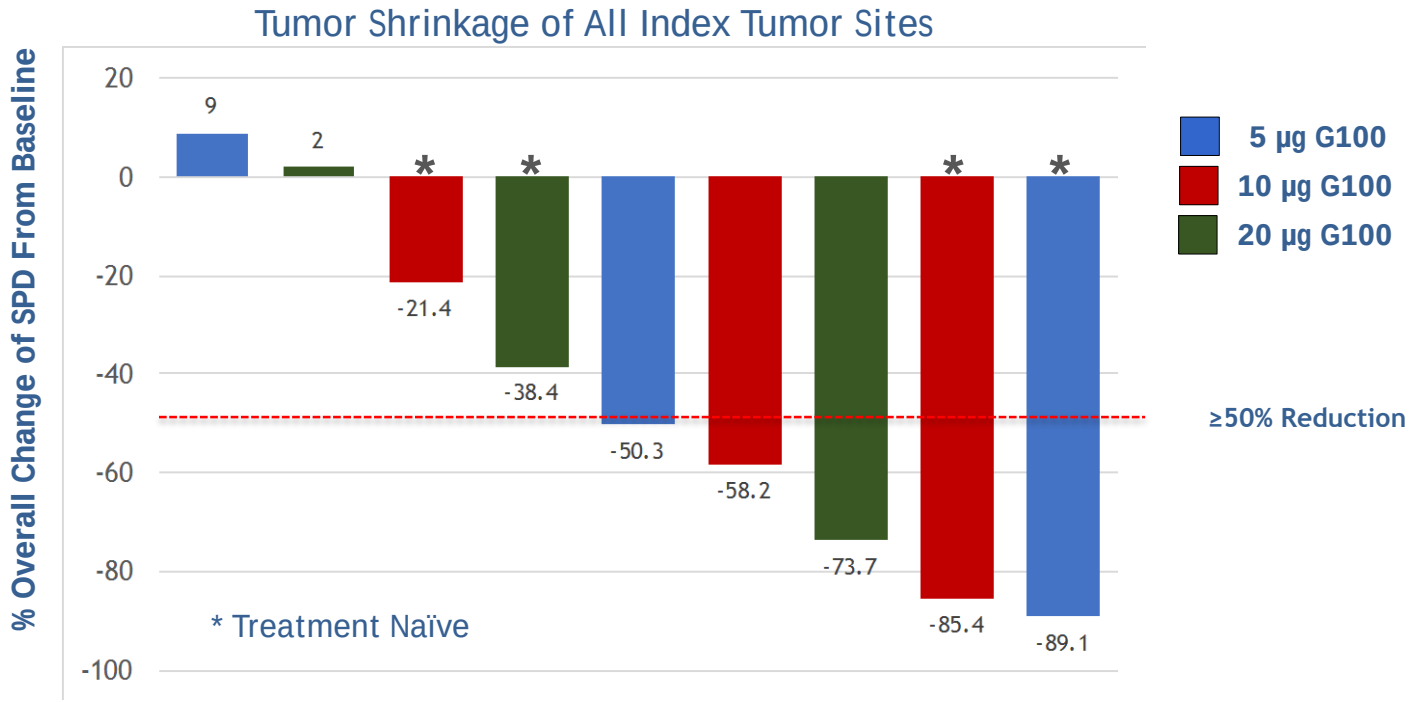


*Additional G100+XRT pts enrolled (n=up to 14)



- **Monotherapy Ph1** in fNHL (n=9, ASCO 2017)
  - Both local and abscopal (systemic) responses: 44% ORR; 100% DCR
- **Combination with Keytruda®** (pembrolizumab) **Randomized Ph2**
  - Fully enrolled (n=24)
  - Final data analysis November 2017 (targeting ASH 2017)
- Targeting 1H2018 for FDA feedback
- Lifecycle: any other injectable tumor (including internal lesions)

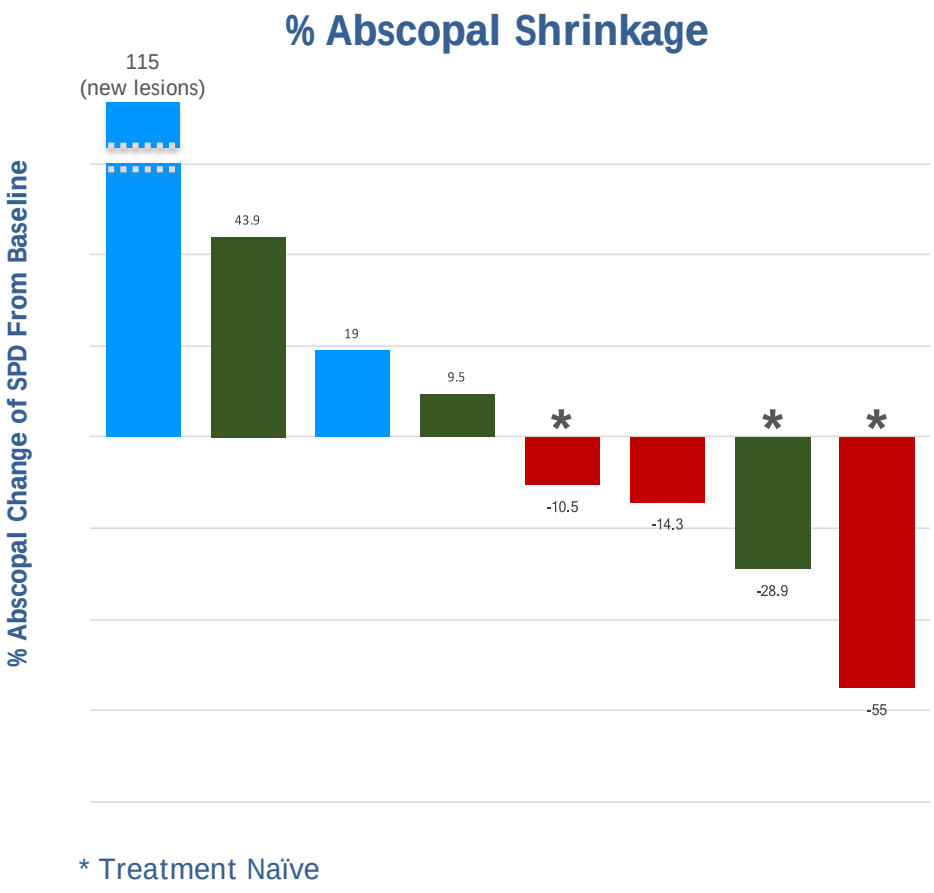
G100 Monotherapy Dose Escalation (ASCO 2017)
Objective Response Rate in Follicular NHL

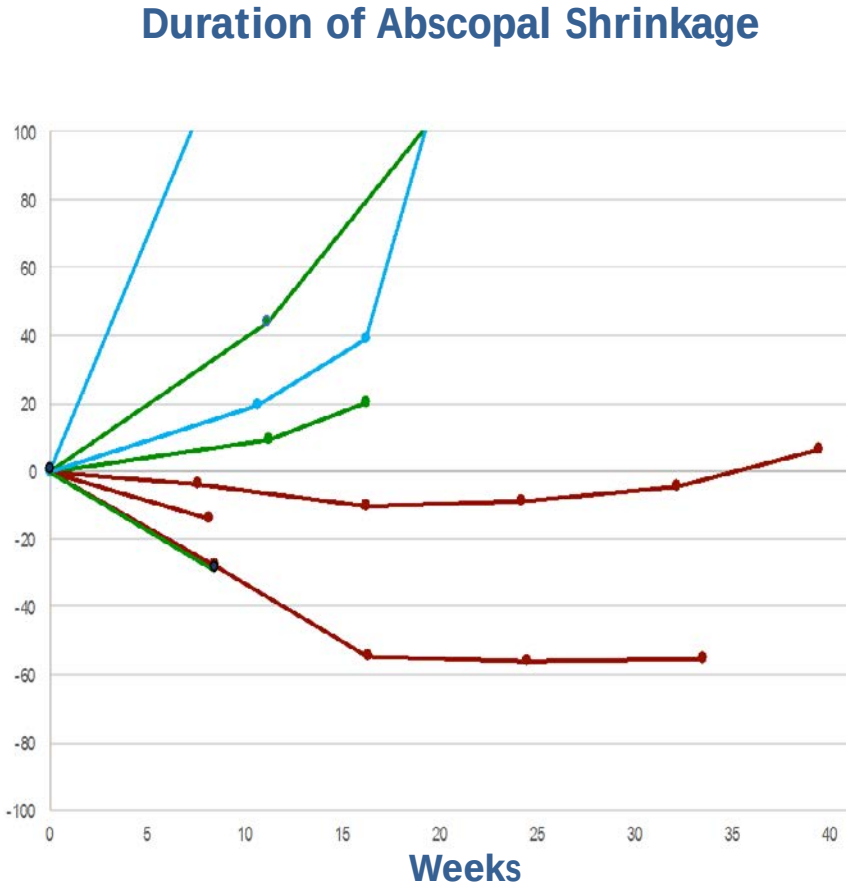


Group	N=	PR/PRu	SD	PD
Total	**9**	**4 (44.4%)**	**5 (55.6%)**	**0**
5µg	3	1	2	0
10µg	3	1/ 1	1	0
20µg (Large Tumor)	3	1	2	0

Tumor response is determined by bi-dimensional measurements and change in sum of product of tumor diameters (SPD) using IrRC Criteria based on bi-dimensional WHO criteria (Wolchok ClinCanRes 2009).

G100 Monotherapy Dose Escalation (ASCO 2017)
Durable Abscopal Shrinkage in Follicular NHL





* Treatment Naïve

5 µg G100
10 µg G100
20 µg G100

G100 Development Path and Potential Opportunity

Follicular NHL

Monotherapy (+XRT) Ph1 (n=9)

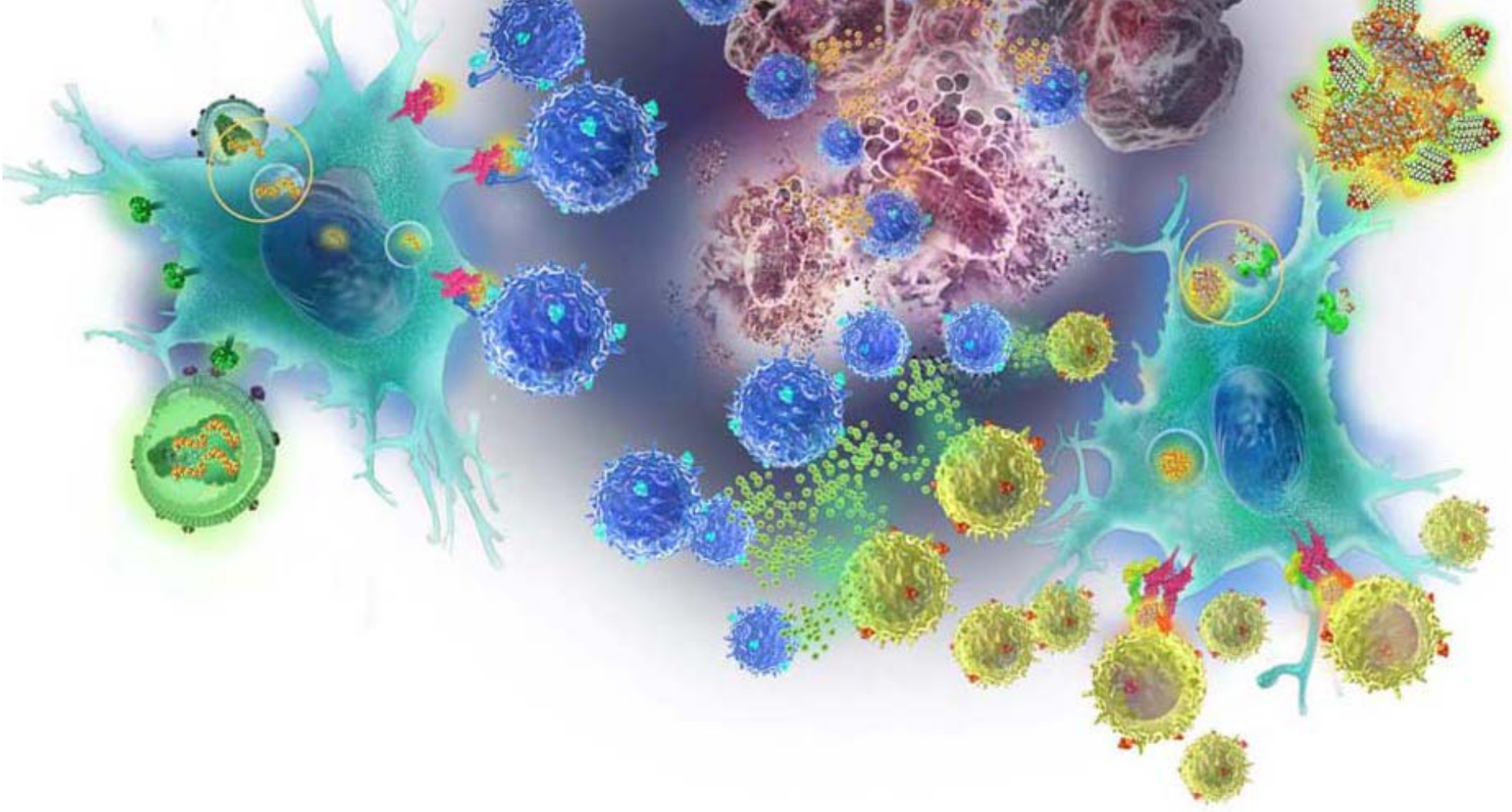
- Tumor reduction in 7/9 (77%)
- 44% ORR (≥50% overall tumor reduction, WHO)
- Distal non-treated tumor reduction (abscopal)
- Changes in TME match MOA and clinical response
- Safe
- Presented at ASCO 2017; additional pts enrolled

Combination (+/- pembrolizumab) rPh2

- Ongoing randomized (fully enrolled; n= 24)
- Targeting ASH 2017
- Potential unmet need fNHL subpopulation

Beyond fNHL: potential therapy in any accessible tumor

- **Additional Positive Data:** Merkel Cell Carcinoma Ph1 (ASCO 2016)
  - +/- XRT or surgery (n=10)
  - 50% ORR per protocol with single agent objective responses (2/10)
  - Modification of TME
  - Safe



DISCOVERY PLATFORMS, NEWS FLOW, TEAM AND PIPELINE

ZVex Discovery Platform

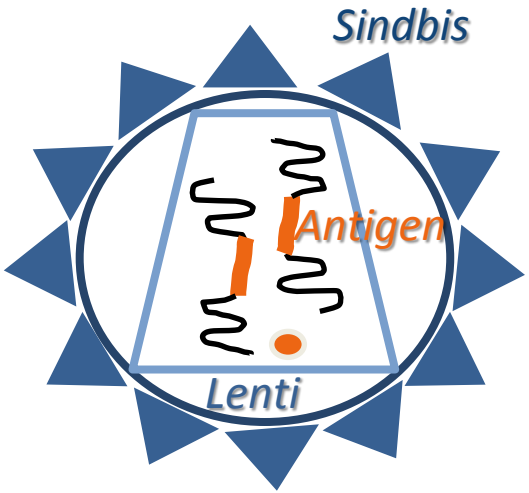
First *in vivo* DC-targeting RNA Gene Delivery Lentiviral Vector

Sindbis Envelope

- Selective *in vivo* DC targeting
- Lack of prior immunity allows for multiple dosing

Lentiviral Backbone

- Effective DC activation and gene expression
- Integration-deficient, replication-incompetent



ZVex

CMB305

First ZVex product delivering NY-ESO-1 RNA to DCs *in vivo*

LA51

Next-gen ZVex product delivering multiple RNA antigens + increased immunogenicity

Generating antigen-specific T cells *in vivo*

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

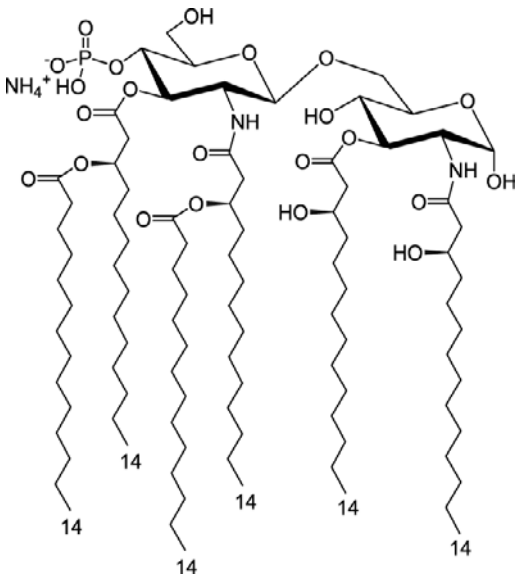
G100: Potent Immune Activator for *in situ* Immunization

Designed to activate the immune system in the tumor microenvironment

TLR4 Agonism:
Activation of (dual) TLR4 signaling and the non-canonical inflammasome

Activation of Innate Immune System via-DCs (cytokines, chemokines)

Activation & Expansion of a Th1 Adaptive Immune System



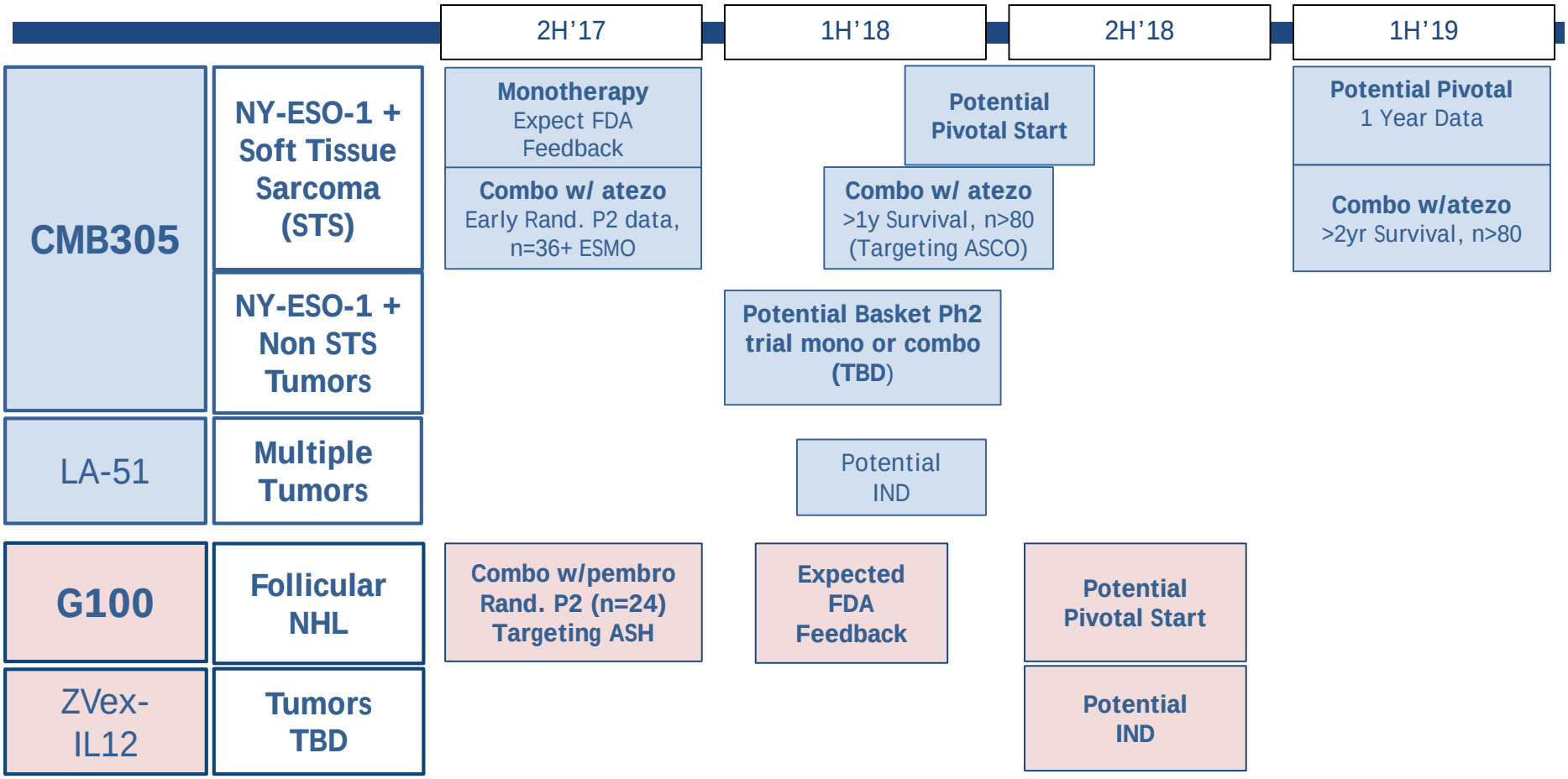
GLA
(Glucopyranosyl lipid A)

G100
GLA formulated in a stable emulsion (SE)

Ph1s in MCC, sarcoma
Ph1 and Ph2 in fNHL

Safety database of >1500 individuals

Upcoming News Flow and Financials



- Cash as of June 30, 2017 — $81.4 million
- Expected cash runway — Through 2H2018
- Total shares outstanding — 25.6 million

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, PhD, DTM&H Chief Scientific Officer	Executive Director	MERCK Research Laboratories
Frank J. Hsu, MD Vice President, Head of Oncology	Chief Medical Officer Senior Medical Director	Zyngenia genzyme
Melanie Morrison, MSHS, CCRA Vice President, Oncology Platform Leader	Vice President Clinical Operations	MEDIVATION
Heidi Petersen Vice President, Regulatory Affairs	Vice President Regulatory Affairs & Quality	BAVARIAN NORDIC pharmacyclics
Christopher Whitmore, CPA Vice President, Finance & Administration	Senior Director Finance Corporate Controller	AcelRx Pharmaceuticals, Inc. SANGAMO
Sergey Yurasov, MD, PhD Senior Vice President, Chief Medical Officer	Senior Vice President Associate Vice President	CLOVIS ONCOLOGY Lilly

Team: Exceptional Board and Advisors

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David Baltimore, PhD,* §°Independent
Franklin M. Berger, Independent
Carlos Paya, MD, PhD, IMDZ
William R. Ringo, Independent
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Susan Kelley, MD, Independent
Lewis W. Coleman, Independent

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David Baltimore, PhD,* §° Caltech
Larry Corey, MD,° FHCRC
Phil Greenberg, MD, FHCRC
Carl June, MD,° U of Penn
Ron Levy, MD,§° Stanford
Steven Reed, PhD, IDRI
Inder Verma, PhD,§° Salk Institute

Clinical Advisors (CAB)

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F. Stephen Hodi, MD, Dana Farber
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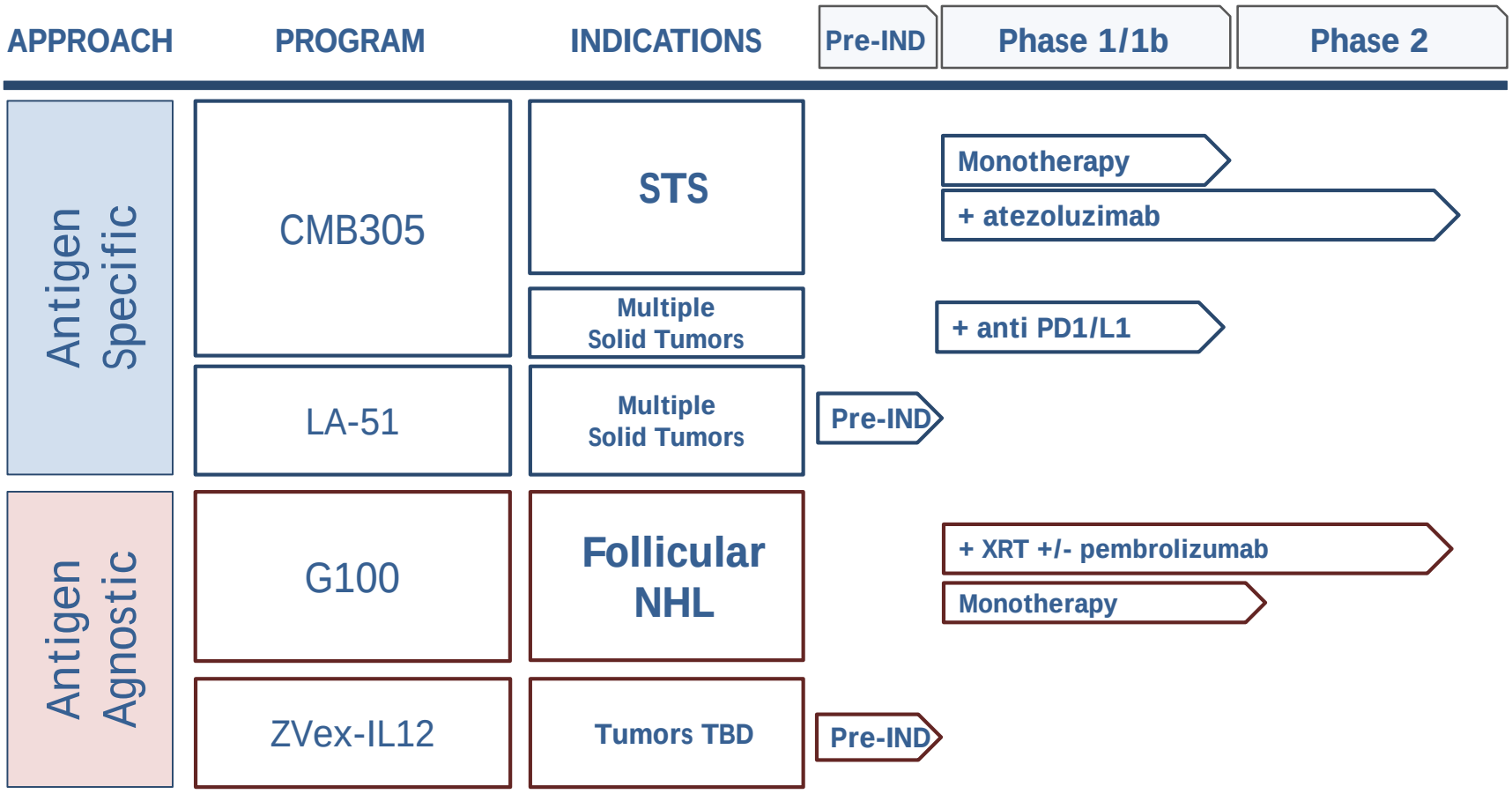
Robert Maki, MD, PhD

Diversified Immunotherapy Pipeline



- Productive discovery platforms producing multiple internal oncology programs, as well as partnered infectious and allergic disease candidates (Medimmune, Sanofi)