Xencor Analyst and Investor Reception

Initial Data from the Phase 1 Study of XmAb®14045 in Patients with Relapsed/Refractory Acute Myeloid Leukemia

December 3, 2018

Bassil Dahiyat, Ph.D.

President &
Chief Executive Officer

Forward-Looking Statements

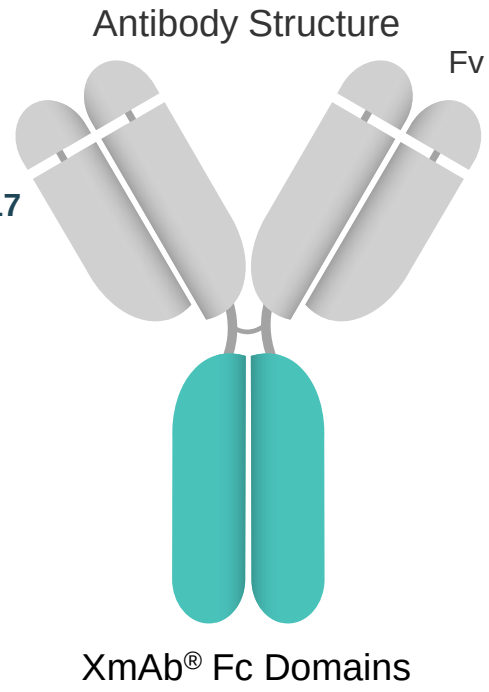
Certain statements contained in this presentation, other than statements of historical fact, may constitute forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Such statements include, but are not limited to, statements regarding Xencor's development plans and timelines; potential regulatory actions; expected use of cash resources; the timing and results of clinical trials; the plans and objectives of management for future operations; and the potential markets for Xencor's product and development candidates. Forward-looking statements are based on the current expectations of management and upon what management believes to be reasonable assumptions based on information currently available to it, and involve numerous risks and uncertainties, many of which are beyond Xencor's control. These risks and uncertainties could cause future results, performance or achievements to differ significantly from the results, performance or achievements expressed or implied by such forward-looking statements. Such risks include, but are not limited to, potential delays in development timelines or negative preclinical or clinical trial results, reliance on third parties for development efforts and changes in the competitive landscape including changes in the standard of care, as well as other risks described in Xencor's filings with the Securities and Exchange Commission (SEC). Xencor expressly disclaims any duty, obligation or undertaking to update or revise any forward-looking statements contained herein to reflect any change in Xencor's expectations with regard thereto of any subsequent change in events, conditions or circumstances on which any such statements are based, except in accordance with applicable securities laws. For all forward-looking statements, we claim the protection of the safe harbor for forward looking statements contained in the Private Securities Litigation Reform Act of 1995.

Xencor: Engineering Antibody Immune Functions to Make Better Drugs

- XmAb® Fc domains: small changes, big functional impacts
  - Augments native immune functions, preserves half-life, stability and production
  - Over 500 issued patents and pending patents worldwide

- Expansive bispecific oncology pipeline advancing
  - Phase 1 trials ongoing for **XmAb14045, XmAb13676, XmAb18087** and **XmAb20717**
  - Additional bispecific program INDs planned in 2018 and 2019
  - Novartis co-development and ex-U.S. license for **XmAb14045** and **XmAb13676**
    - $150M upfront, $2.4B potential milestones
  - Amgen's AMG 424 in Phase 1 trial and advancing 5 preclinical XmAb programs in oncology and inflammation, including AMG 509 in prostate cancer
    - $45M upfront, $1.7B potential milestones

- Internal autoimmune programs in clinical development
  - **obexelimab (XmAb5871)** in Phase 2 in IgG4-Related Disease and Systemic Lupus Erythematosus
  - **XmAb7195** in Phase 1 development for allergic disease



- 12 XmAb clinical programs ongoing internally or with partners, one BLA submitted, one in Phase 3

NOVARTIS morphosys ALEXION AMGEN CSL Boehringer Ingelheim

xencor

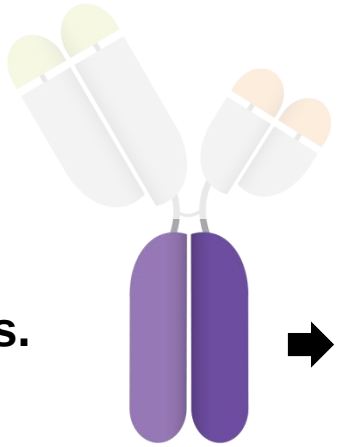
Development Pipeline Focused on Immune Inhibitor and Bispecific Fc Domains

Program (Target)	Fc Domain	Primary Indication	Preclinical	Phase 1	Phase 2	Phase 3	Commercial Rights
obexelimab (XmAb5871) (CD19)	Immune Inhibitor	IgG4-RD SLE					xencor
XmAb7195 (IgE)	Immune Inhibitor	Asthma/ allergy					xencor
XmAb14045 (CD123 x CD3)	Bispecific	AML					xencor NOVARTIS*
XmAb13676 (CD20 x CD3)	Bispecific	B-cell malignancy					xencor NOVARTIS*
XmAb18087 (SSTR2 x CD3)	Bispecific	GEP-NET GIST					xencor
XmAb20717 (PD-1 x CTLA-4)	Bispecific Xtend	Oncology					xencor
XmAb22841 (CTLA-4 x LAG-3)	Bispecific Xtend	Oncology					xencor
XmAb23104 (PD-1 x ICOS)	Bispecific Xtend	Oncology					xencor
XmAb24306 (IL-15/IL-15Rα)	Bispecific	Oncology					xencor

* Novartis licensed ex-U.S. commercial rights, worldwide co-development

XmAb® Bispecific Fc Domains Retain Beneficial Natural Antibody Properties

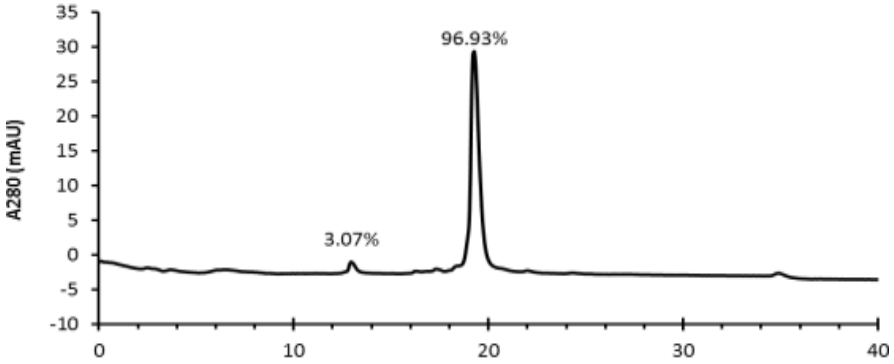
vs.



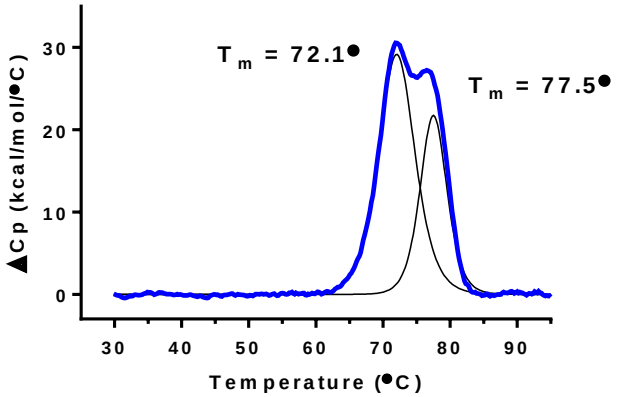
- **Enhanced separation**
- **Heterodimer favored**
- **High stability**

- **Antibody-like half-life *in vivo***
- **Readily produced and purified**
- **Stable scaffold for numerous formats**

Stable cell line expression of XmAb®14045

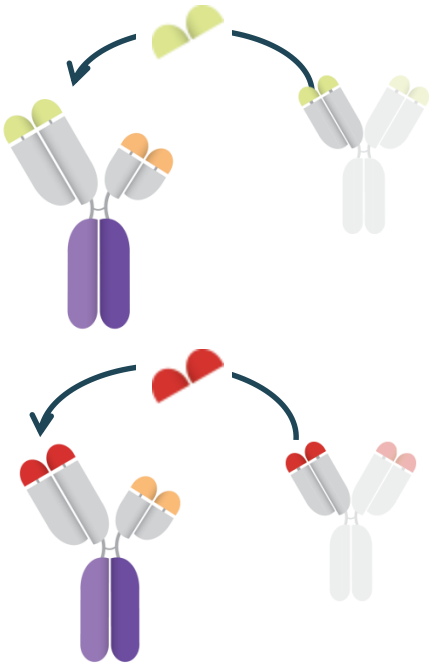


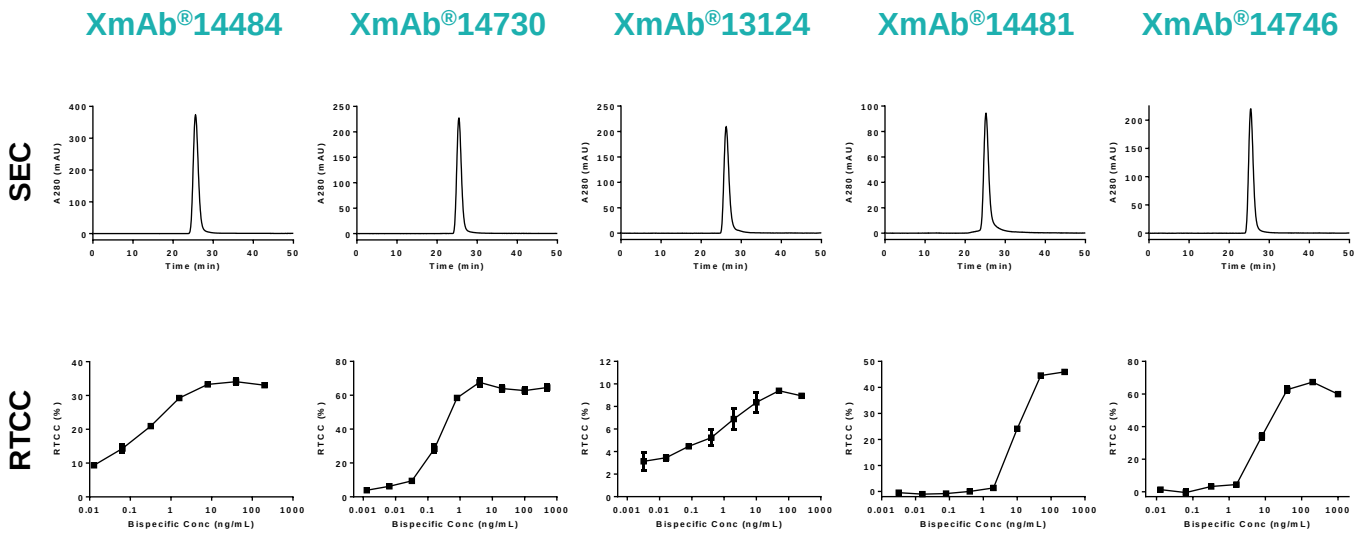
Heterodimer Fc domain thermal stability



xencor

Plug-and-play Fc Domain Enables Rapid Pipeline Generation and Prototyping



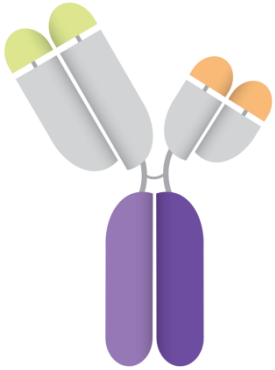


- Portfolio of CD3 bispecific molecules generated for development
  - Target T cells against tumors

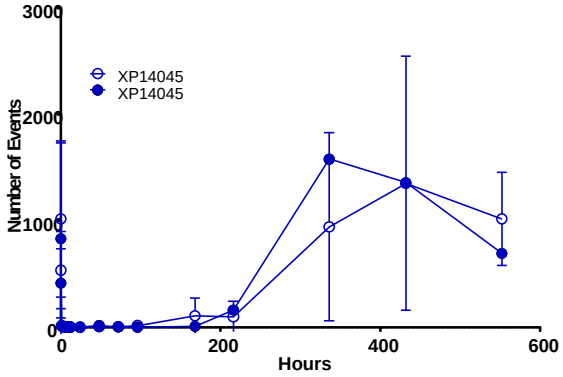
- New immuno-oncology programs rapidly prototype different target combinations

Xencor Lead Bispecific Programs: T-Cell Engagement with Tuned Potency and mAb-like PK

XmAb®14045 (CD123 x CD3)

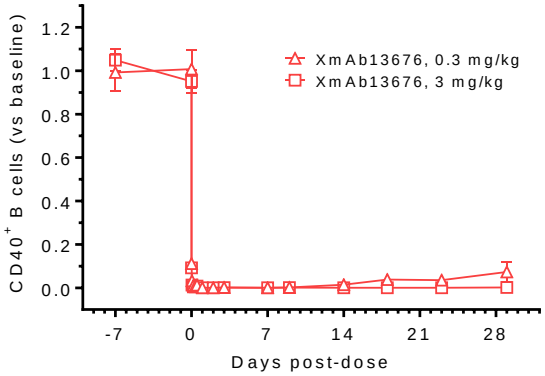


Cynomolgus monkey, single IV bolus
Profound, sustained basophil depletion



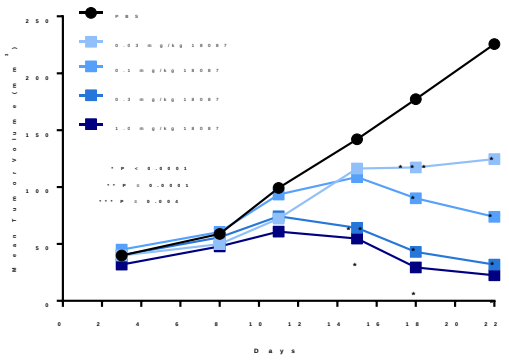
XmAb®13676 (CD20 x CD3)

Cynomolgus monkey, single IV bolus
Profound, sustained B-cell depletion

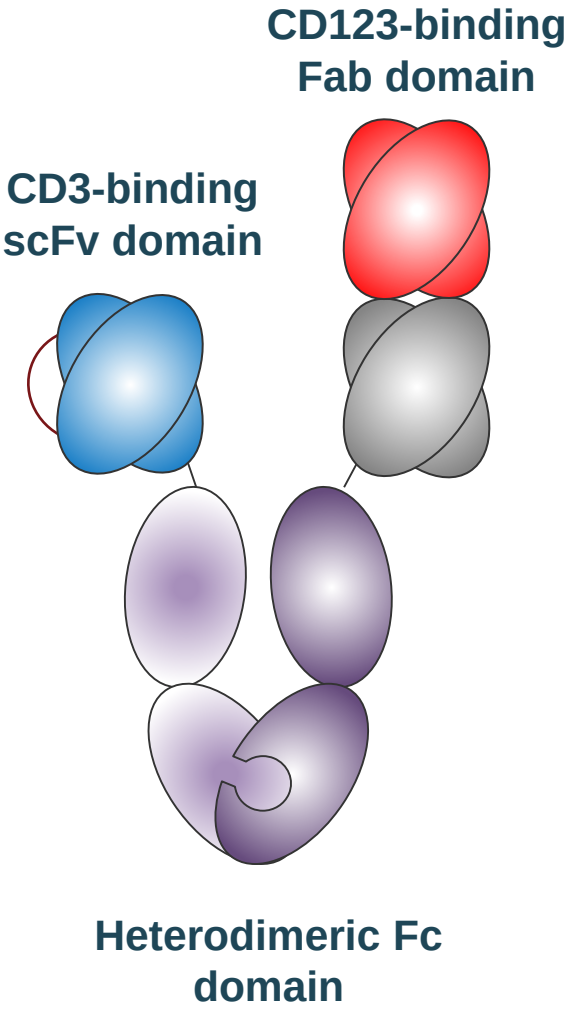


XmAb®18087 (SSTR2 x CD3)

huPBMC-SCID mouse xenograft
Potent, dose-dependent tumor reduction



XmAb®14045: CD123 x CD3 Bispecific Antibody – A Full Length mAb to Be Dosed Intermittently



- Stimulates targeted T cell-mediated killing of CD123-expressing cells, regardless of T cell antigen specificity
- Ablation of Fc gamma receptor binding removes potential for receptor-mediated crosslinking and activation of T cells
- Fc preserves FcRn affinity for antibody-like half-life
- Does not require a continuous infusion
- Efficiently manufactured using standard antibody production methods

Complete Responses in Relapsed/ Refractory AML Patients on a Weekly Dosing Schedule of XmAb®14045, a CD123 x CD3 T Cell-Engaging Bispecific Antibody: Initial Results of a Phase 1 Study

Farhad Ravandi[1], Asad Bashey[2], James M. Foran[3], Wendy Stock[4], Raya Mawad[5], William Blum[6], M. Wayne Saville[7], Chelsea M. Johnson[7], K. Gary J. Vanasse[8], Thomas Ly[7], Hagop M. Kantarjian[1], Bhavana Bhatnagar[9], Koichi Takahashi[1], and Alice S. Mims[9]

[1]U of TX-MD Anderson CC, Houston, TX; [2]Acute Leukemia and BMT Program at Northside Hospital, Atlanta, GA; [3]Mayo Clinic Florida, Jacksonville, FL; [4]University of Chicago, Chicago, IL; [5]Swedish Cancer Institute, Seattle, WA; [6]Winship Cancer Institute, Emory University, Atlanta, GA; [7]Xencor, Inc., Monrovia and San Diego, CA; [8]Novartis Institutes for Biomedical Research, Cambridge, MA; and [9]Ohio State University, Columbus, OH.

Farhad Ravandi, M.D.

Janiece and Stephen A. Lasher Professor of Medicine and Chief of Section of Developmental Therapeutics in the Department of Leukemia

University of Texas – MD Anderson Cancer Center

XmAb14045 Phase 1 Design: Objectives and Eligibility

Objectives

Primary

- First infusion MTD and safety
- Second and subsequent infusion MTD and safety

Secondary

- Pharmacokinetics, pharmacodynamics, immunogenicity
- Preliminary anti-tumor activity

Exploratory

- Lymphocyte subsets and T-cell activation
- Cytokine/immunologic profiles (IL-2, IL-6, IL-10, gamma-IFN, CRP, etc.)
- Effect on immune checkpoint expression
- Effect on stem cell numbers

Inclusion criteria

Eligible diseases

- AML (excluding PML)
- B-cell ALL
- Blastic plasmacytoid dendritic neoplasm
- Blast crisis CML

ECOG PS 0-2

Relapsed or refractory

Prior allogeneic transplant allowed

Exclusion criteria

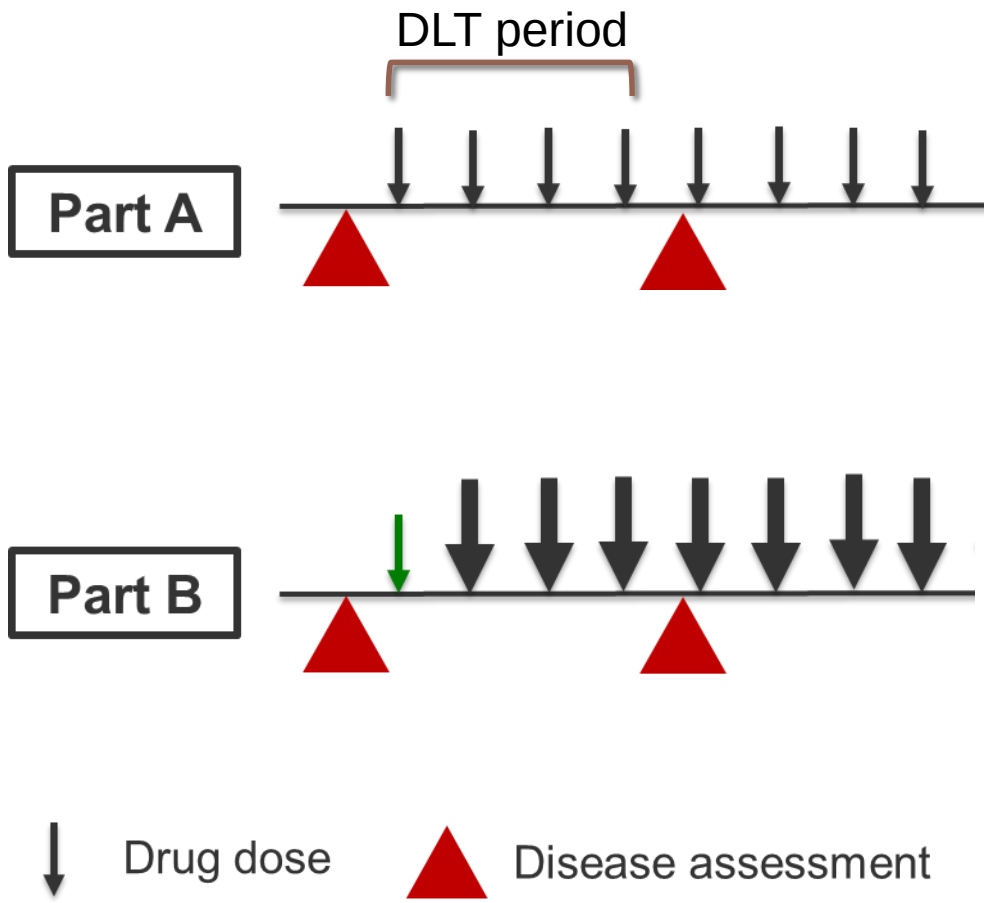
Antineoplastic treatment within 2 weeks

Known uncontrolled CNS involvement by tumor

AST/ALT > 3.0x ULN, Bili > 1.5, Cr > 2.0x ULN or Clcr > 40; WBC ≥ 10K or leukostasis

History of therapy with CD123-directed therapies

XmAb14045 Phase 1 Design



- Weekly doses infused over 2 hours
- Cycle length was 28 days
- 15 planned dose cohorts for Part A starting at 0.003 µg/kg
- Disease assessments occurred at the end of odd-numbered cycles
- DLT period — Days 1-22
- Subject could receive additional cycles of therapy if the investigator felt there was clinical benefit
- Intrapatient dose escalation was allowed

XmAb14045 Phase 1 Design

- 66 subjects dosed as of 19 Oct 2018
- Efficacy analysis included:
  - all subjects that received 4 weekly doses of XmAb14045 at ≥1.3 µg/kg (dose level at which activity was initially seen)
  - had at least one post-treatment disease assessment
- Safety analysis included all subjects that received at least 1 dose of XmAb14045

Cohorts	Cycle 1				Cycle 2+	Dosed	Efficacy Evaluable
	Day 1	Day 8	Day 15	Day 22			
9A	1.3	1.3	1.3	1.3	1.3	8	5
10A	2.3	2.3	2.3	2.3	2.3	5	4
1B	1.3	2.3	2.3	2.3	2.3	6	5
2B	1.3	2.3	2.3	4	4	6	4

All doses in µg/kg

Demographics (Safety Population)

Characteristic		All patients (n=66)
Age	Median [min, max]	61 years [18, 85]
Gender	Female	30 (46%)
Diagnosis	AML*	66 (100%)
Time since initial diagnosis	Median [min, max]	49 weeks [3, 879]
Number of prior therapies	Median [min, max]	3 [1, 8]
History of hematopoetic stem cell transplantation		20 (30%)
Refractory to last therapy (per investigator)		57 (86%)
ELN risk category	Favorable	3 (5%)
	Intermediate	22 (33%)
	Adverse	35 (53%)
	Unknown	6 (9%)
Secondary leukemia		7 (11%)

*one B-ALL patient was enrolled/treated, but not included in this analysis.

Safety

Related Treatment Emergent Adverse Events Occurring in ≥10% of Subjects (n=66)

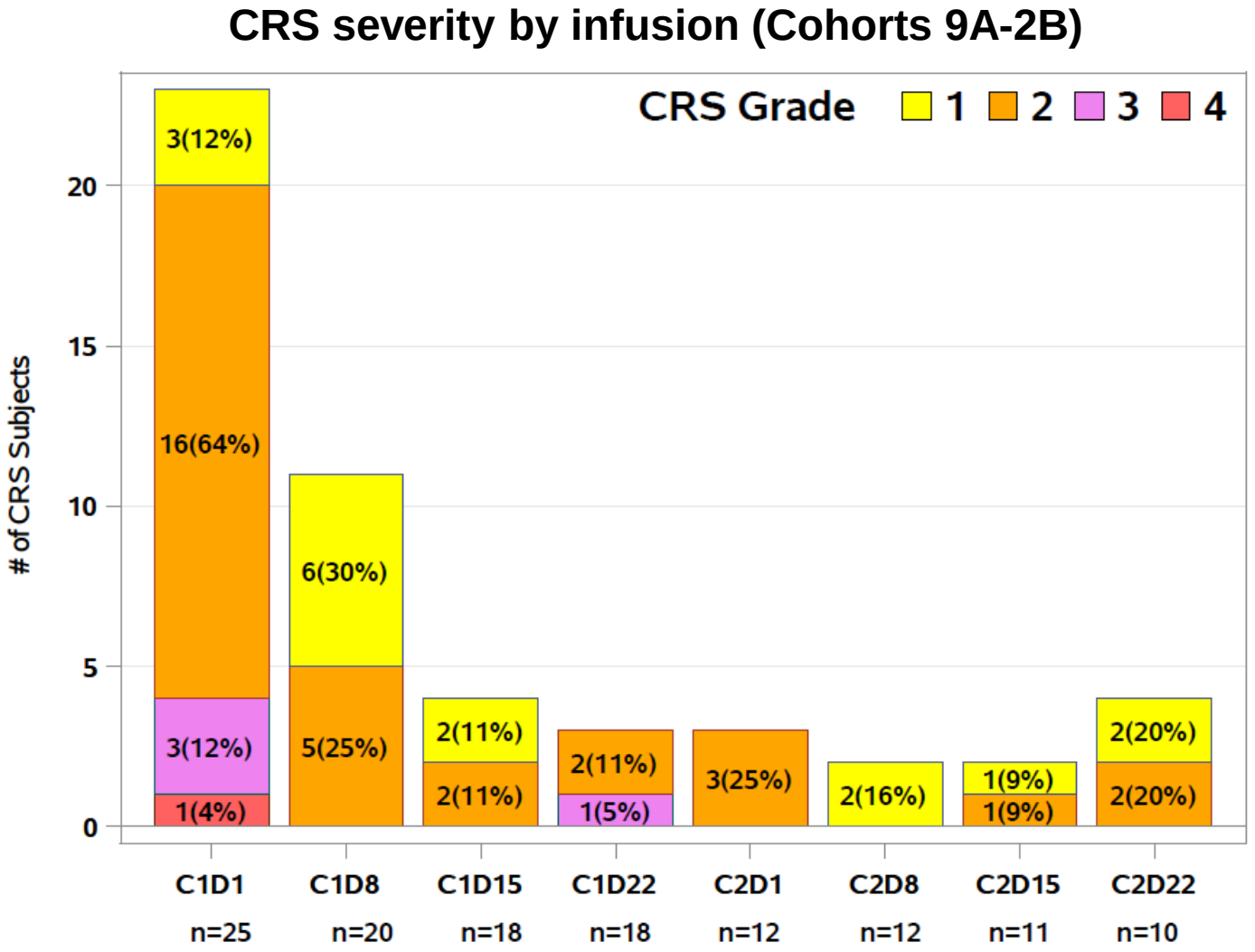
Event	All	≥ Grade 3
Cytokine release syndrome*	36 (55%)	4 (6%)
Chills	26 (39%)	
Fever	18 (27%)	
Tachycardia	14 (21%)	
Increased ALT	12 (18%)	5 (8%)
Anemia	11 (17%)	9 (14%)
Hypotension	11 (17%)	1 (2%)
Fatigue	10 (15%)	1 (2%)
Hypertension	9 (14%)	3 (5%)
Increased AST	8 (12%)	2 (3%)
Lymphopenia	7 (11%)	5 (8%)
Nausea	7 (11%)	
Vomiting	7 (11%)	

*CRS Revised Grading System (Lee DW et al. Blood 2014;124:188)

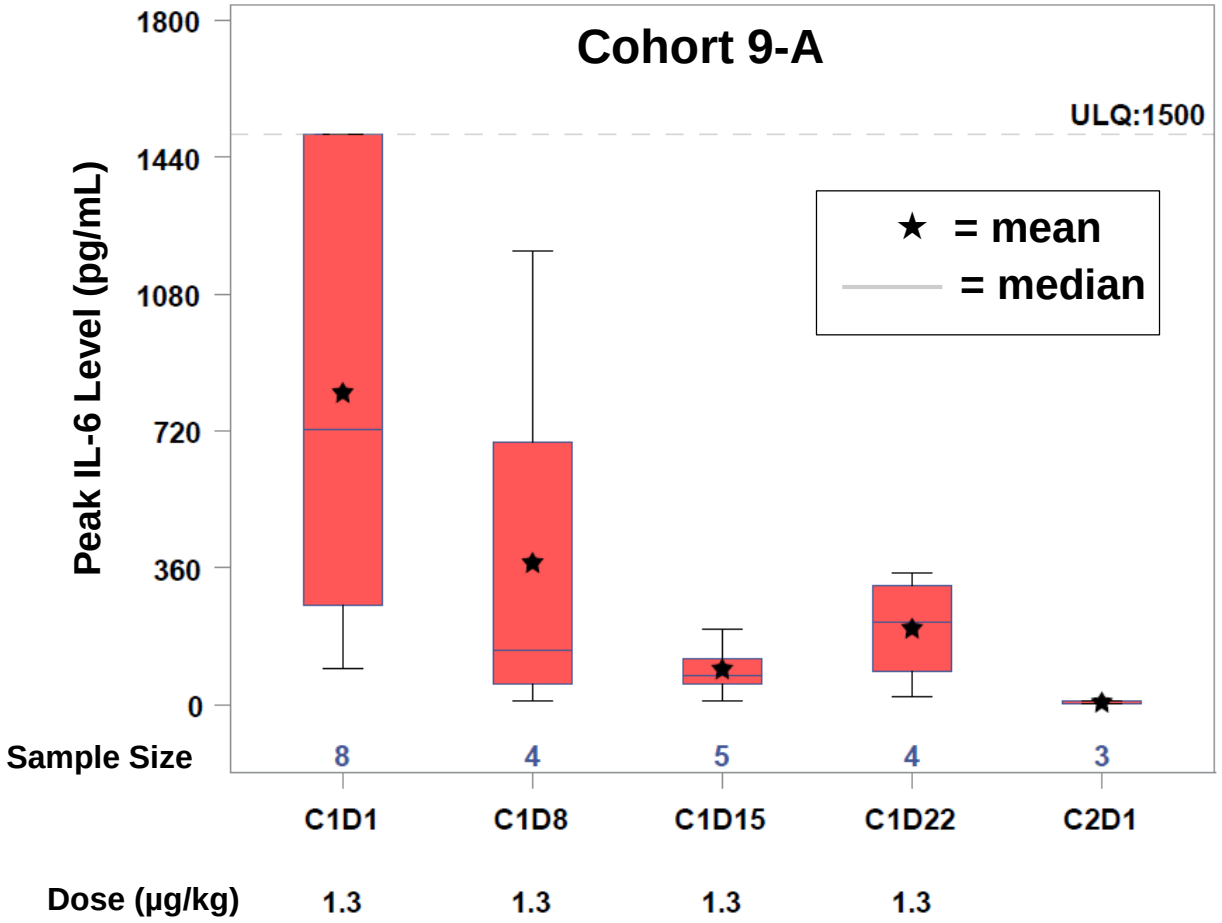
- Primary toxicity was cytokine release syndrome (CRS), observed in 55% of subjects. Additional events occurring within 24 hours of dosing consistent with CRS were seen in 29% (chills, fever, tachycardia, hypotension, etc.)
- No clear evidence of drug-related myelosuppression
- Grade 3 transaminase elevation occurring within 24 hours of drug infusion was seen in 5 patients
  - All resolved within 7 days
  - Only 1 patient developed hyperbilirubinemia (Gr 1)
  - No clear relationship with dose
  - Most often seen with the first dose of XmAb14045
- Recurrent infusion-related back or head pain in 4 patients, managed with analgesics
- Neurologic events: 5 patients developed transient infusion-related cognitive changes and 1 patient manifested paresthesias

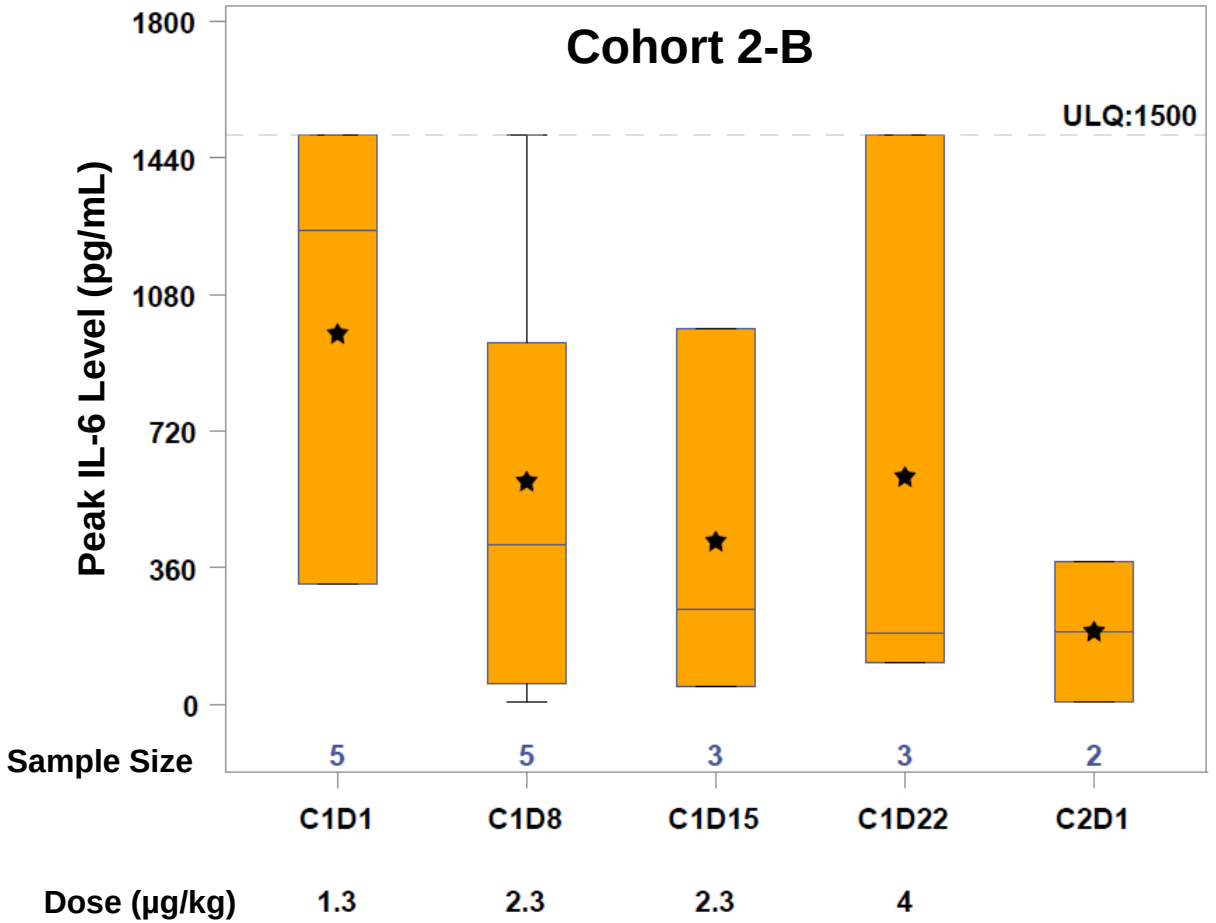
Cytokine Release Syndrome and Premedications

- No premedication was given for early cohorts
- Standard premedications were added for Cohort 4A (0.075 µg/kg):
  - Dexamethasone 10-20 mg IV
  - Diphenhydramine 50 mg po
  - Acetaminophen 500 mg po
- All episodes of CRS began within 1-4 hours of the start of drug infusion and usually resolved within 1-4 hours
- CRS was generally more severe on the initial dose, accounting for most ≥ Grade 3 episodes



Cytokine Release Syndrome: Peak Serum IL-6 by Infusion

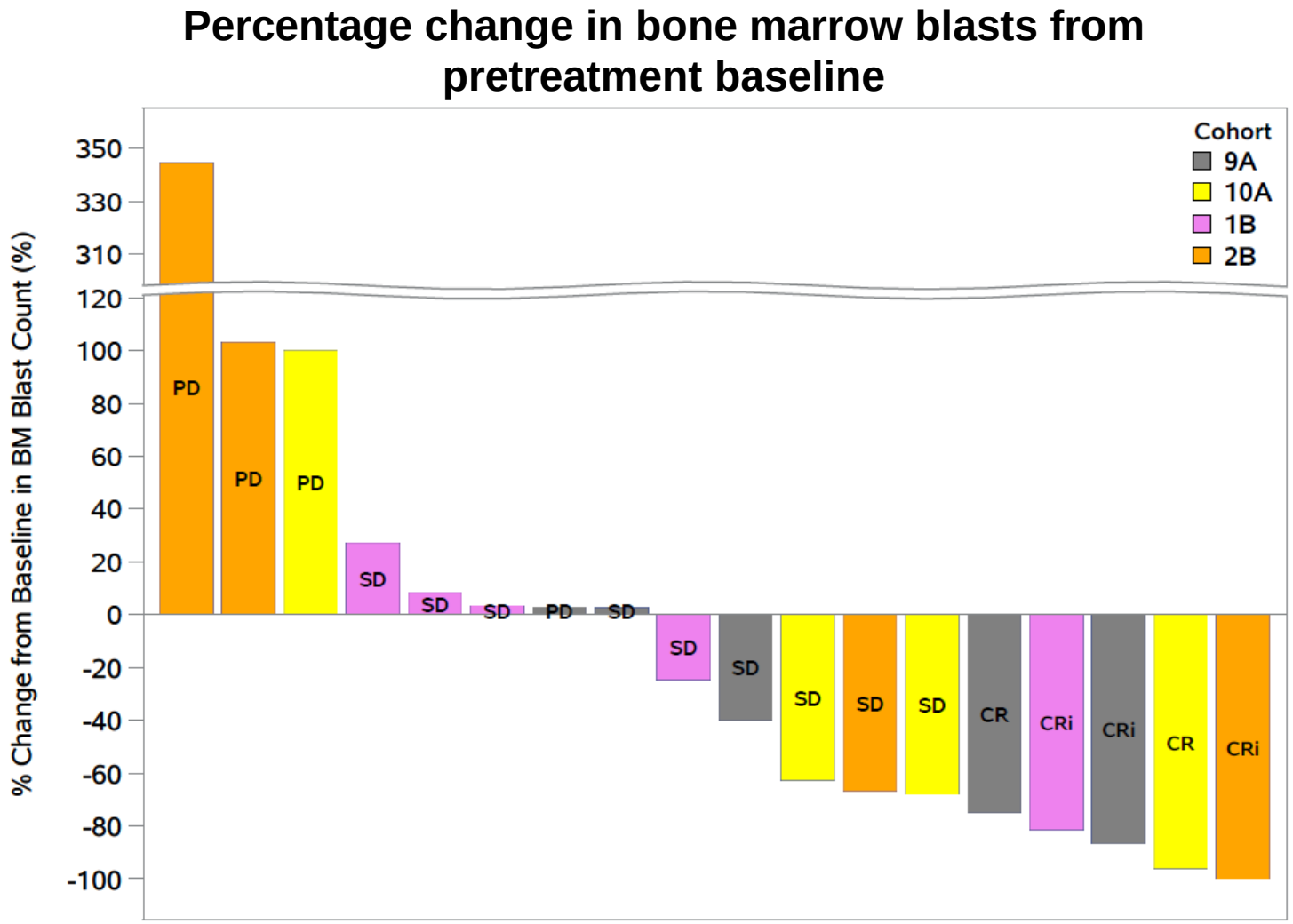




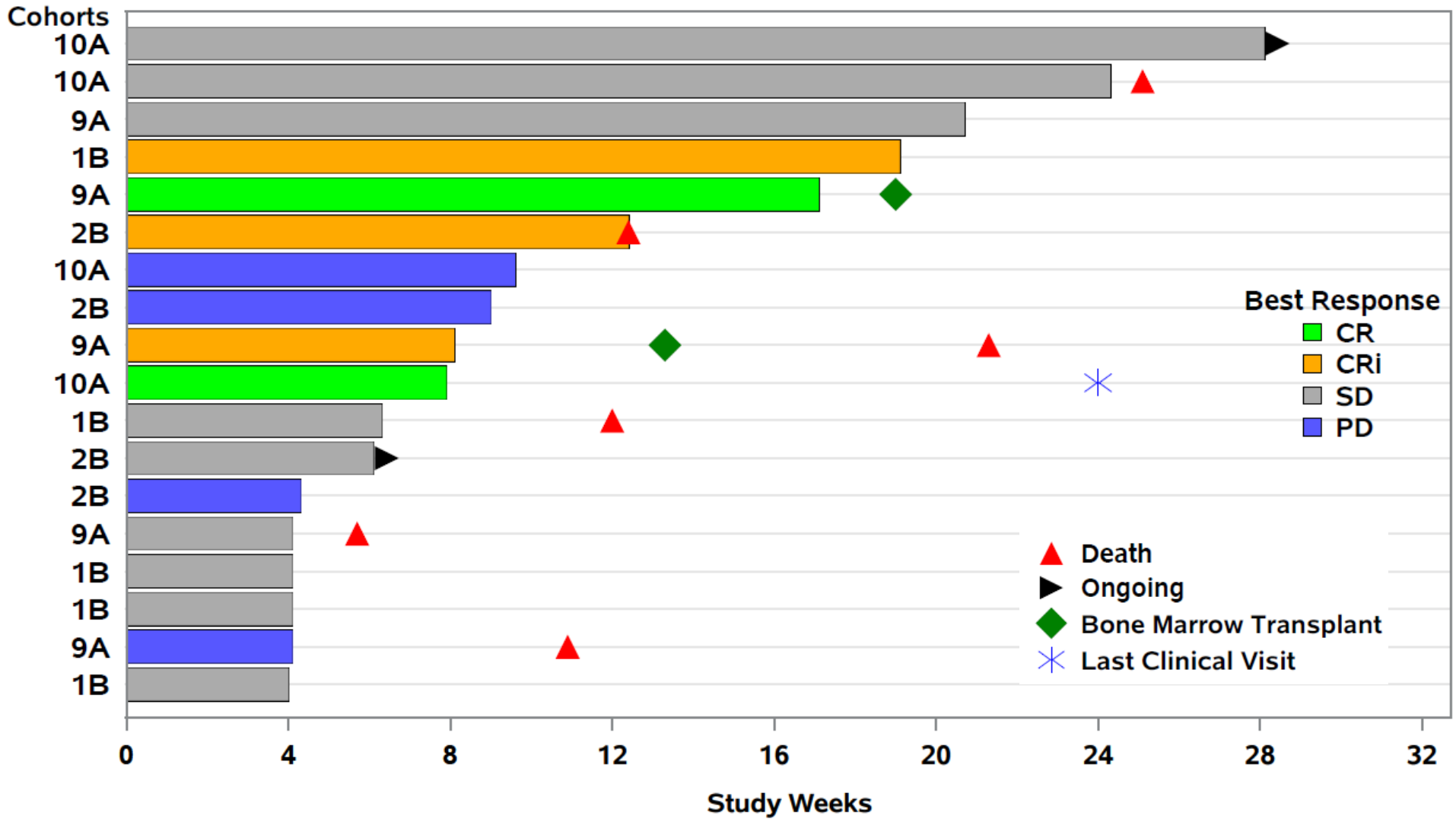
Upper limit of quantification for IL-6 = 1500 pg/mL

Preliminary Efficacy Data

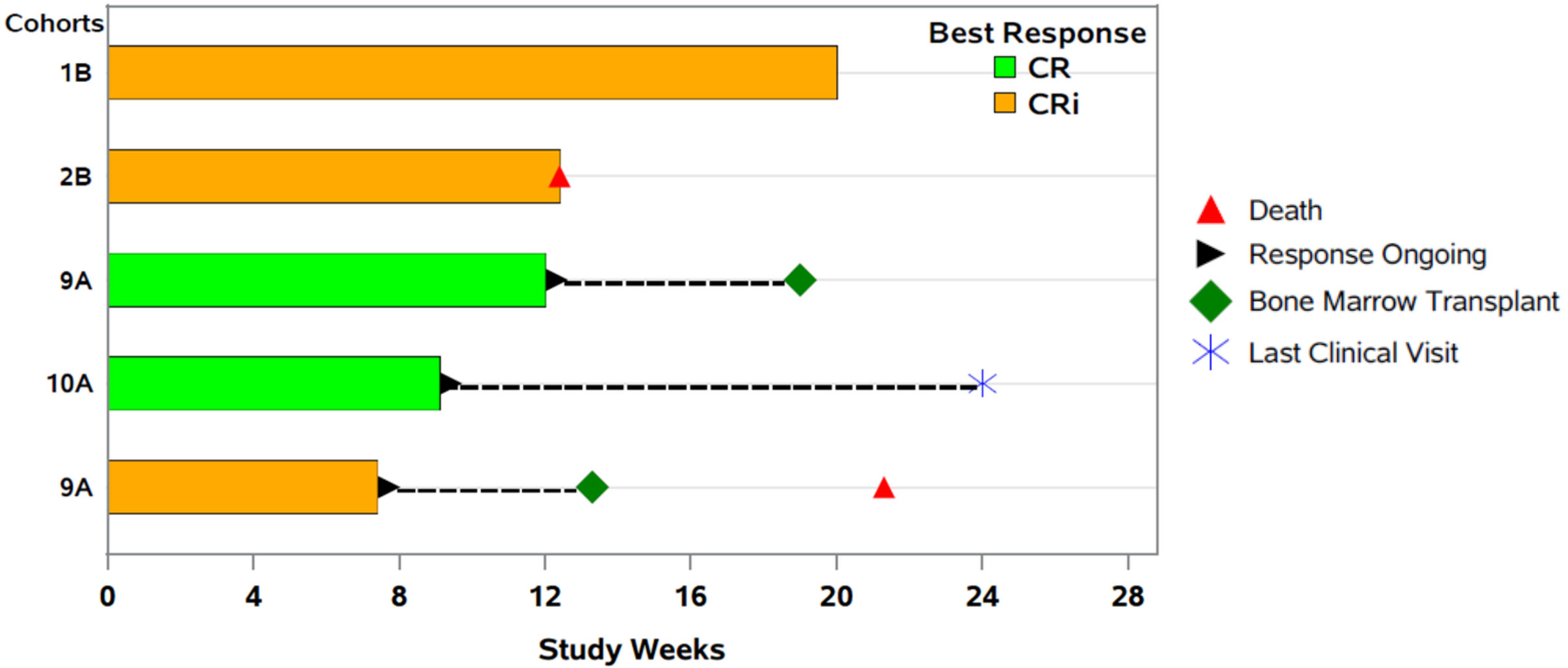
- Objective response rate (CR + CRi) in 5/18 patients (28%) dosed at ≥1.3 µg/kg
- Stable Disease lasting for >3 months in an additional 3 patients (17%)
- Reduction of marrow blasts in 56% of patients
- Blast reduction occurred within the first cycle, although clinical hematologic recovery (CRi→CR) sometimes required 1-2 additional cycles



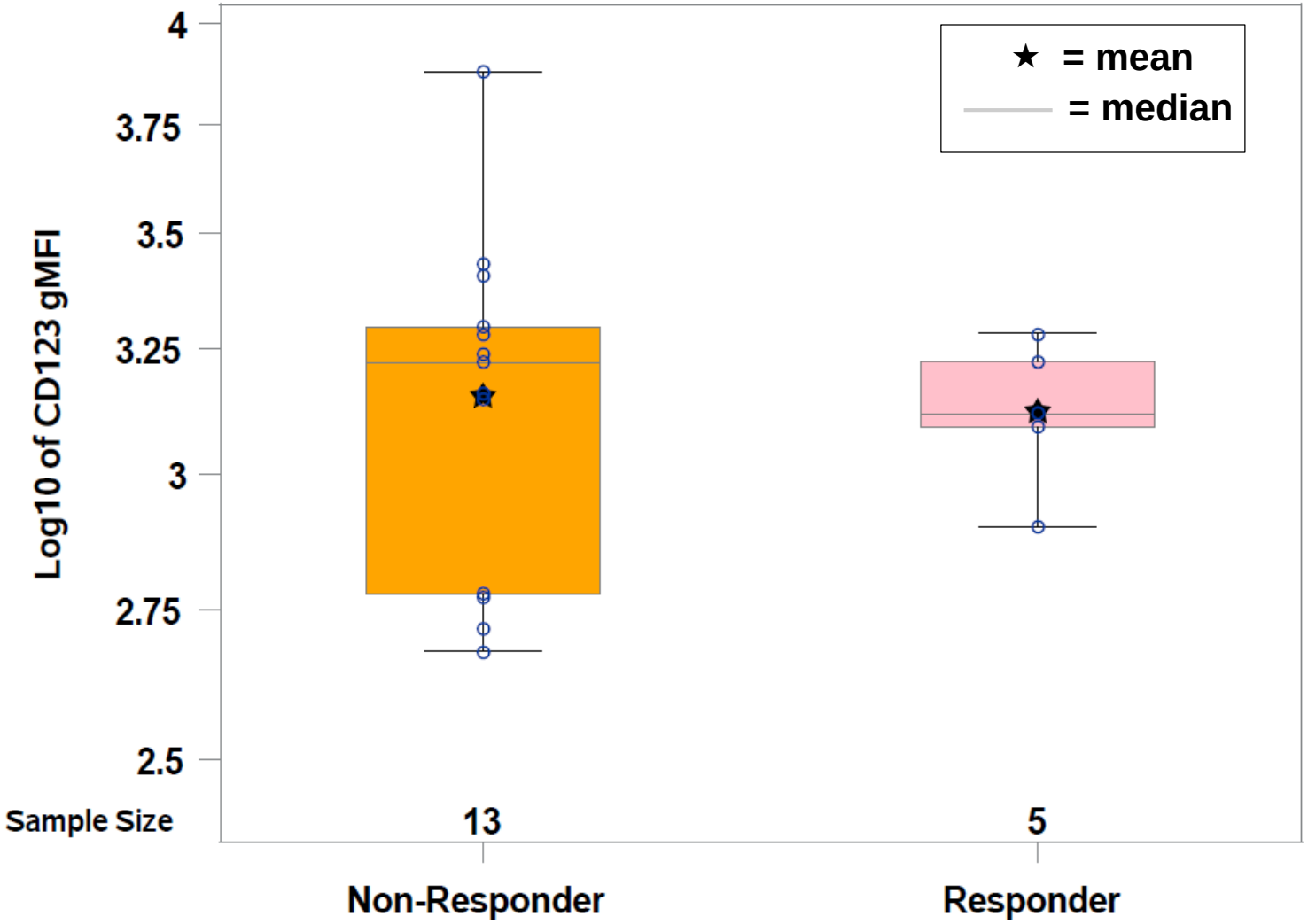
Time to Treatment Discontinuation



Responders (CR and CRi)



Blast CD123 Expression: Responders vs. Non-Responders



CD123 mean fluorescent intensity of marrow leukemic blasts by flow cytometry prior to XmAb14045 administration was not significantly different between responders and non-responders

Bassil Dahiyat, Ph.D.

President &
Chief Executive Officer

Novartis Collaboration for XmAb®14045 and XmAb®13676 Boosts Development Resources and Retains U.S. Commercial Rights

Links Novartis' leadership in oncology with Xencor's XmAb® bispecific programs

- Novartis receives ex-U.S. commercial rights to XmAb14045 and XmAb13676
  - $325M in milestones per program, including $90M in development milestones
  - Low double-digit royalties on ex-U.S. sales
- Xencor retains all U.S. commercial rights to XmAb14045 and XmAb13676
- Worldwide 50/50 development collaboration and cost share
- Research collaboration for XmAb Bispecific Technology in 4 Novartis programs
  - Novartis starting antibodies plugged into XmAb bispecific constructs, Xencor provides molecular engineering; mid single-digit royalties
  - Xencor has opt-in right to one Novartis program for U.S. profit and cost share, co-detail
- Non-exclusive access to Xencor Fc technologies for 10 programs

$150M upfront, $2.4B total potential milestones, royalties

Xencor's Bispecific Oncology Pipeline Expanding

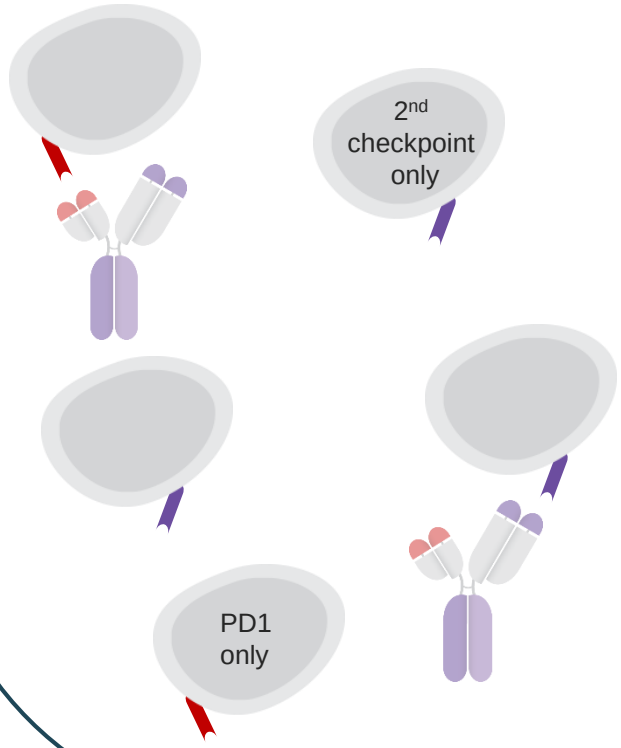
Program (Target)	Fc Domain	Primary Indication	Discovery Lead	Preclinical	Phase 1	Commercial Rights
XmAb14045 (CD123 x CD3)	Bispecific	AML				xencor / NOVARTIS*
XmAb13676 (CD20 x CD3)	Bispecific	B-cell cancer				xencor / NOVARTIS*
XmAb18087 (SSTR2 x CD3)	Bispecific	GEP-NET GIST				xencor
XmAb20717 (PD-1 x CTLA-4)	Bispecific/ Xtend	Oncology				xencor
AMG 424 (CD38 x CD3)	Bispecific	Myeloma				AMGEN
XmAb22841 (CTLA-4 x LAG-3)	Bispecific/ Xtend	Oncology				xencor
XmAb23104 (PD-1 x ICOS)	Bispecific/ Xtend	Oncology				xencor
XmAb24306 (IL-15/IL-15Rα)	Bispecific/ Xtend	Oncology				xencor
AMG 509	Bispecific	Prostate Cancer				AMGEN

* Novartis licensed ex-U.S. commercial rights, worldwide co-development

Xencor Checkpoint Bispecifics are Designed to Promote Tumor-Selective T Cell Targeting

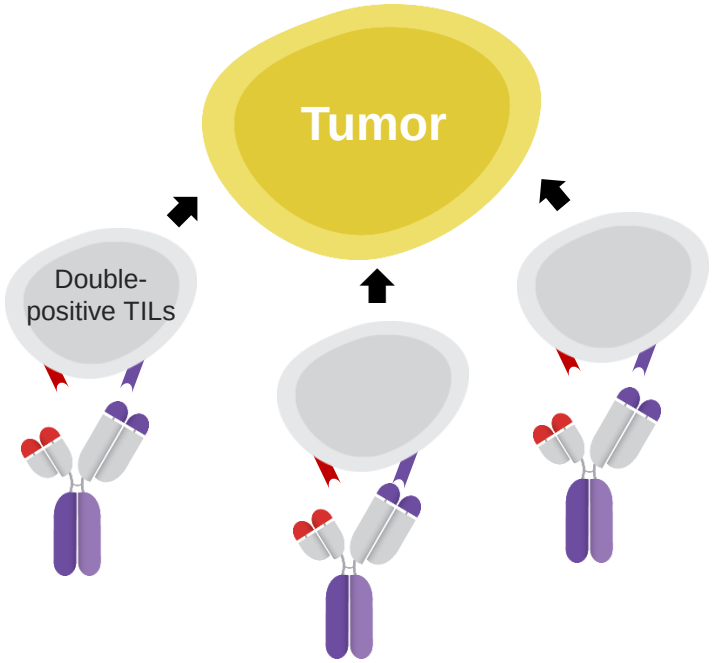
Periphery

Weak monovalent interactions
No Activation



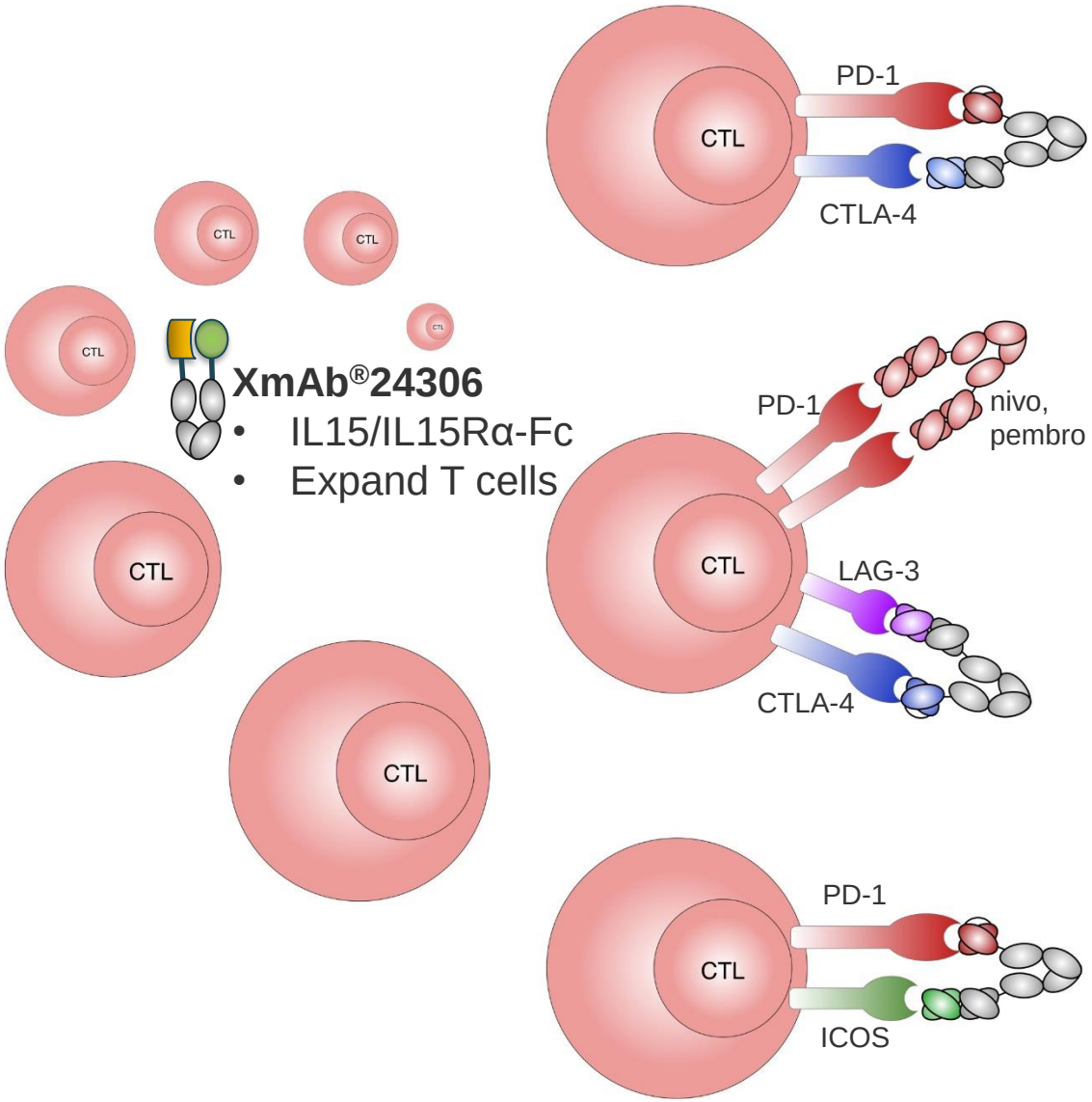
Tumor Environment

Strong bivalent interactions
TIL Activation



- Tumor infiltrating lymphocytes (TILs) coexpress multiple checkpoints (Matsuzaki 2010, Fourcade 2012, Gros 2014)
- Bivalent binding increases avidity

Distinct and Novel Mechanisms-of-Action Define Xencor's Growing Immuno-Oncology Pipeline



XmAb®24306
- IL15/IL15Rα-Fc
- Expand T cells

XmAb®20717
- PD-1 x CTLA-4 bispecific
- Two most validated checkpoint receptors

XmAb®22841
- CTLA-4 x LAG-3 bispecific
- Combinable with anti-PD1
- Triple checkpoint blockade

XmAb®23104
- PD-1 x ICOS bispecific
- Novel checkpoint x costim pairing

Milestones and Goals in 2019

Trial Initiations / IND Submissions
Initiate Phase 3 study of **obexelimab** (XmAb5871) in IgG4-Related Disease
Initiate Phase 1 studies of **XmAb22841** (CTLA-4 x LAG-3) and **XmAb23104** (PD-1 x ICOS)
Submit IND application for **XmAb24306** (IL-15/IL-15Rα)

Initial Phase 1 Data Readouts
XmAb13676 (CD20 x CD3) in B cell malignancies, pending alignment with Novartis
XmAb18087 (SSTR2 x CD3) in neuroendocrine tumors or gastrointestinal stromal tumors
XmAb20717 (PD-1 x CTLA-4) in multiple solid tumor types

Cash 9/30/2018 $548 million

Runway into 2023

Xencor Analyst and Investor Reception

Initial Data from the Phase 1 Study of XmAb®14045 in Patients with Relapsed/Refractory Acute Myeloid Leukemia

December 3, 2018