Antibodies by Design™

XmAb® Antibody Therapeutics

Corporate Overview

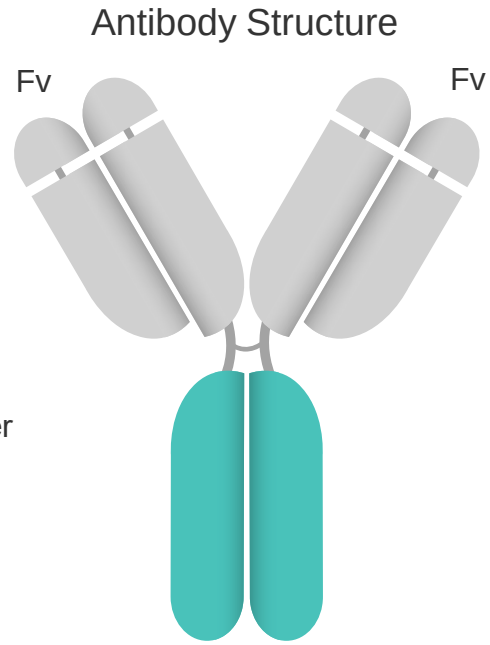
January 2020

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 750 issued patents and pending patents worldwide
- Expansive bispecific antibody oncology pipeline advancing
  - **8 XmAb bispecific antibodies in Phase 1 clinical studies**
  - Novartis co-development and ex-U.S. license for XmAb14045 (Phase 1); additional Phase 1 oncology program began enrolling patients in Dec. 2019
  - Amgen's AMG 424 for myeloma in Phase 1; IND allowed for AMG 509 in prostate cancer
- Genentech co-development collaboration for novel IL15 cytokines
  - Wide-ranging combination strategy critical to advancing cytokines
  - Retain ability to perform clinical studies with broad spectrum of leading cancer therapies
  - IND submitted for XmAb24306 in H2 2019
- XmAb late-stage clinical programs ongoing with partners
  - Tafasitamab/MOR208: Morphosys BLA submission completed in December 2019
  - Ultomiris® (Alexion) approved in the U.S., Japan and EU for the treatment of adult patients with PNH; in the U.S. for patients with aHUS; additional indications in clinical testing



XmAb® Fc Domains

NOVARTIS AMGEN ALEXION Genentech A Member of the Roche Group morphosys GILEAD astellas CSL

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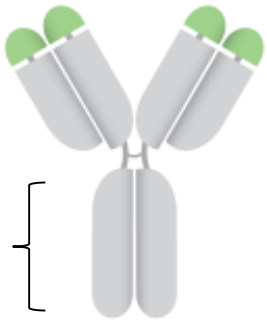
XmAb® Fc Domains Shift Focus of Antibody Drug Discovery by Creating New Axes for Differentiation

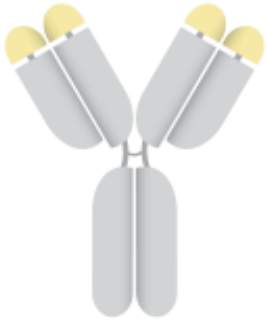
Standard Technology

Fv focus

Same Fc



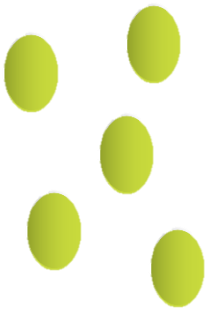
Soliris®



Rituxan®

anti-CD19 antibody

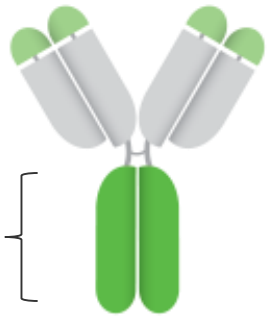
Fv bispecifics



cytokines

XmAb Fc Engineering

Xencor Fc Domains



Ultomiris®
(ALXN1210)

tafasitamab
(MOR208/XmAb5574)

obexelimab
(XmAb5871)

XmAb bispecifics

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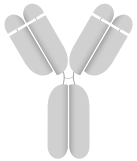
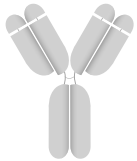
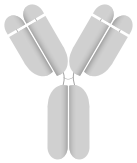
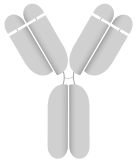
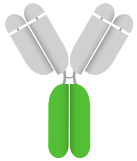
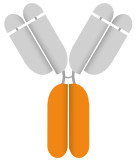
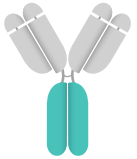
XmAb® Fc Domains Augment Natural Antibody Functions

Natural Fc Function	 Circulating half-life	 Cytotoxicity (immune cell)	 Immune regulation Antigen clearance	 Stable homodimer structure
Fc Receptor	FcRn	FcγRIIa, FcγRIIIa	FcγRIIb	N/A
Fc Domain Redesigns				
XmAb Enhanced Function	 **Xtend™ Domain** Prolonged half-life	 **Cytotoxic Domain** Enhanced cytotoxicity (immune cell)	 **Immune Inhibitor Domain** Immune inhibition Rapid clearance	 **Bispecific Domain** Stable heterodimer structure

Additional Fc domains: stability, complement activation

99.5% identical to natural antibody
Plug-and-play substitution into any antibody

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Development Pipeline Focused on Bispecific Fc Domains

Program (Targets)	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 *
Plamotamab (XmAb13676) CD20 x CD3	Bispecific	B-cell malignancy					xencor
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 IL15Rβγ (IL15/IL15Rα-Fc)	Bispecific Xtend	Oncology					Genentech ** A Member of the Roche Group
XmAb27564 IL2R (IL2-Fc)	Bispecific Xtend	Autoimmune					xencor

* Novartis licensed ex-U.S. commercial rights, worldwide co-development
** Co-development with Genentech, Xencor option to co-promote in U.S.

XmAb® Fc Domains Have Created Numerous Differentiated Antibodies for Technology Partners

Program	Fc Domain	Indications	Preclinical	Phase 1	Phase 2	Phase 3	Approved	Commercial Rights
Ultomiris®	Xtend™	PNH, aHUS						ALEXION
Tafasitamab (MOR208/XmAb5574)	Cytotoxic	DLBCL, CLL				BLA FILED		morphosys
Talacotuzumab	Cytotoxic	Leukemia						CSL
VRC01LS	Xtend	HIV						NIH
AMG 424 CD38 x CD3	Bispecific	Myeloma						AMGEN
GS-9722	Cytotoxic Xtend	HIV						GILEAD
VIR-2482	Xtend	Influenza A						VIR
XmAb bispecific	Bispecific	Oncology						NOVARTIS
AMG 509 STEAP1 x CD3	2+1 Bispecific	Prostate cancer						AMGEN
XmAb bispecific	Bispecific	Oncology						astellas

Technology licensing expands pipeline with very little opportunity cost

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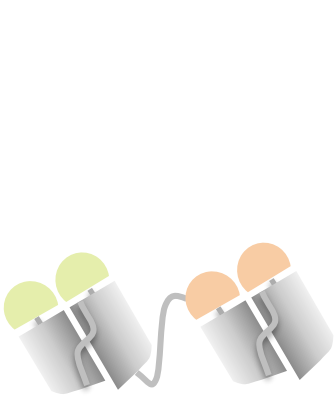
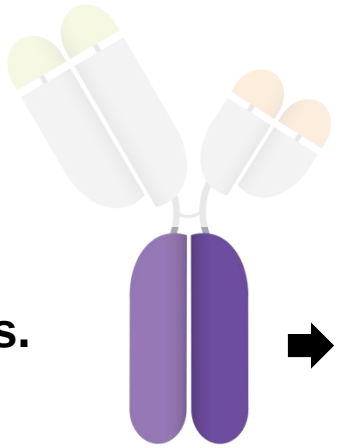
XmAb® Bispecific Antibody Programs

XmAb® Bispecific Fc Domains Retain Beneficial Natural Antibody Properties



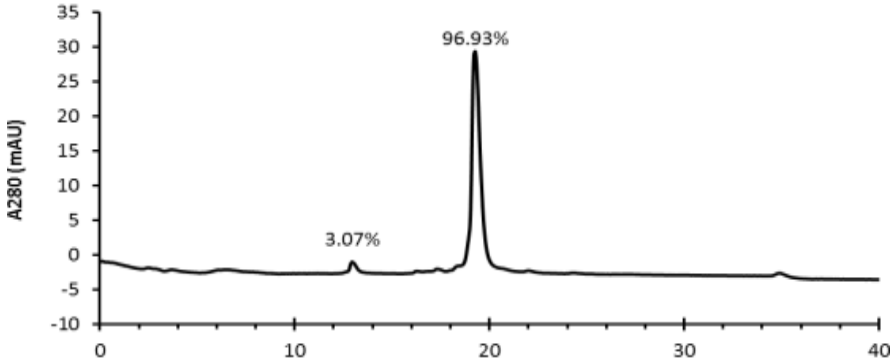
vs.



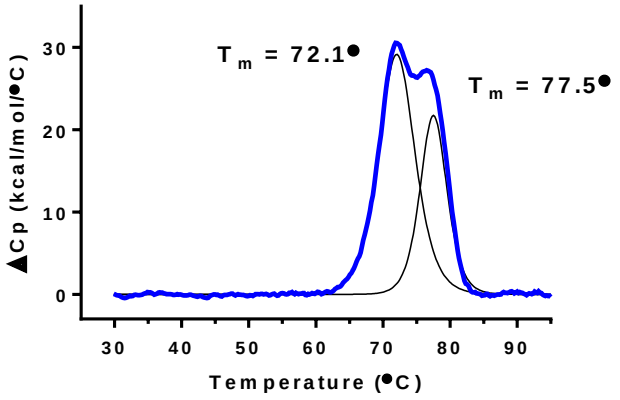
- **Enhanced separation**
- **Heterodimer favored**
- **High stability**

- **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



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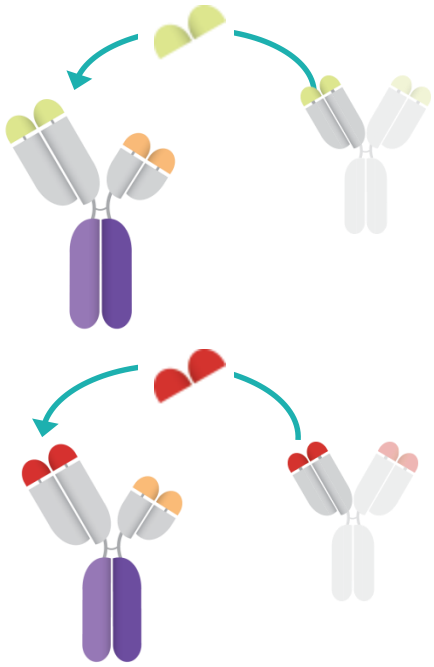
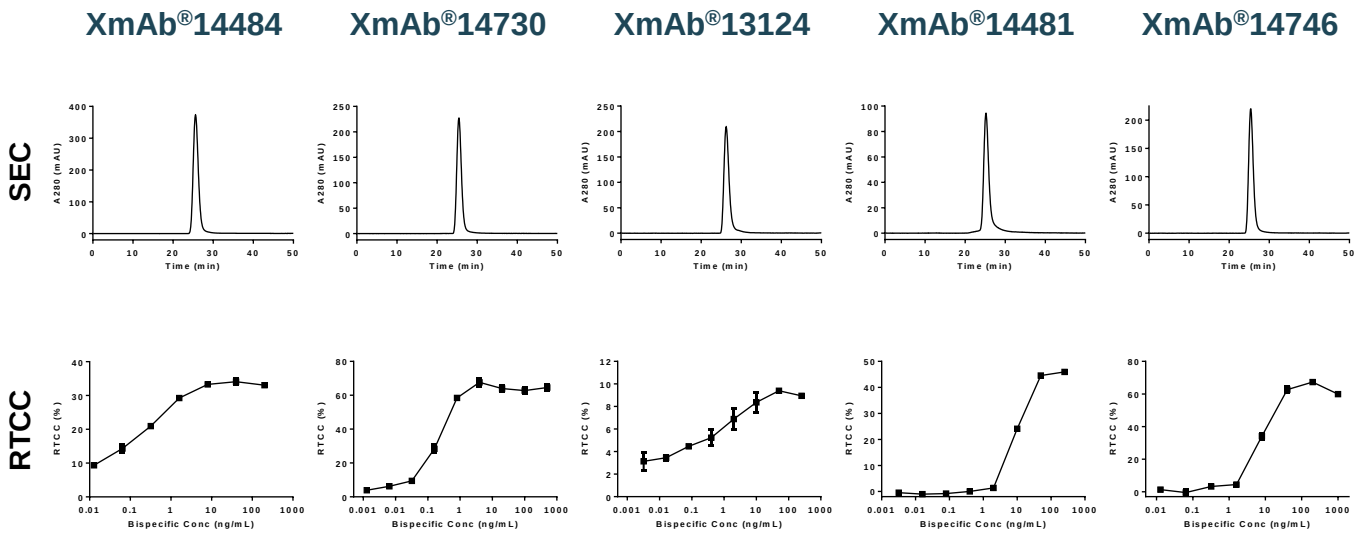
Plug-and-play Fc Domain Enables Rapid Pipeline Generation and Prototyping



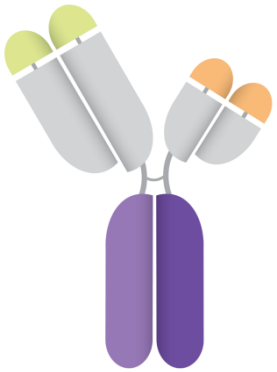


- Portfolio of CD3 bispecific molecules generated for development
  - Target T cells against tumors

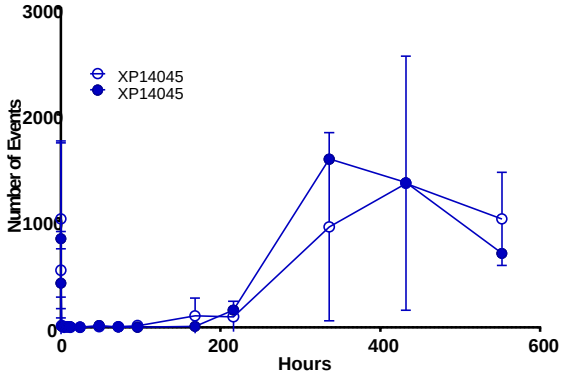
- New oncology programs rapidly prototype different target combinations

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

XmAb®14045 (CD123 x CD3)

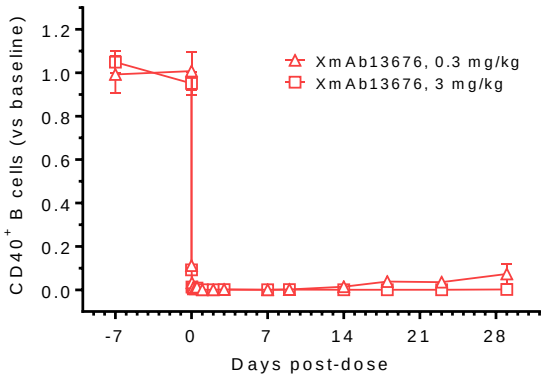


Cynomolgus monkey, single IV bolus
Profound, sustained basophil depletion



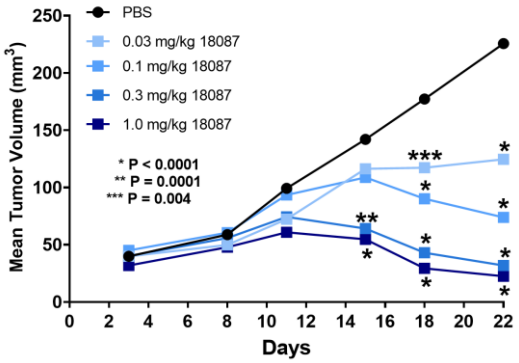
Plamotamab (CD20 x CD3)

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

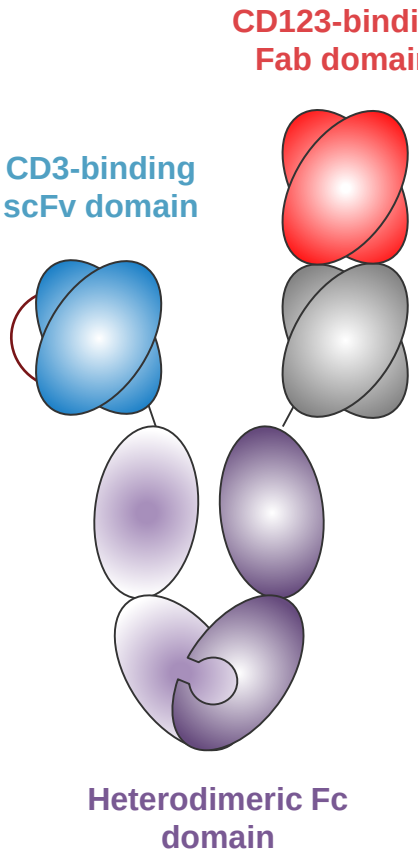


XmAb®18087 (SSTR2 x CD3)

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



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



CD123 (IL-3 receptor α subunit)

- Found on early hematopoietic precursor cells and basophils
- Frequently expressed on hematologic malignancies

XmAb14045

- 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

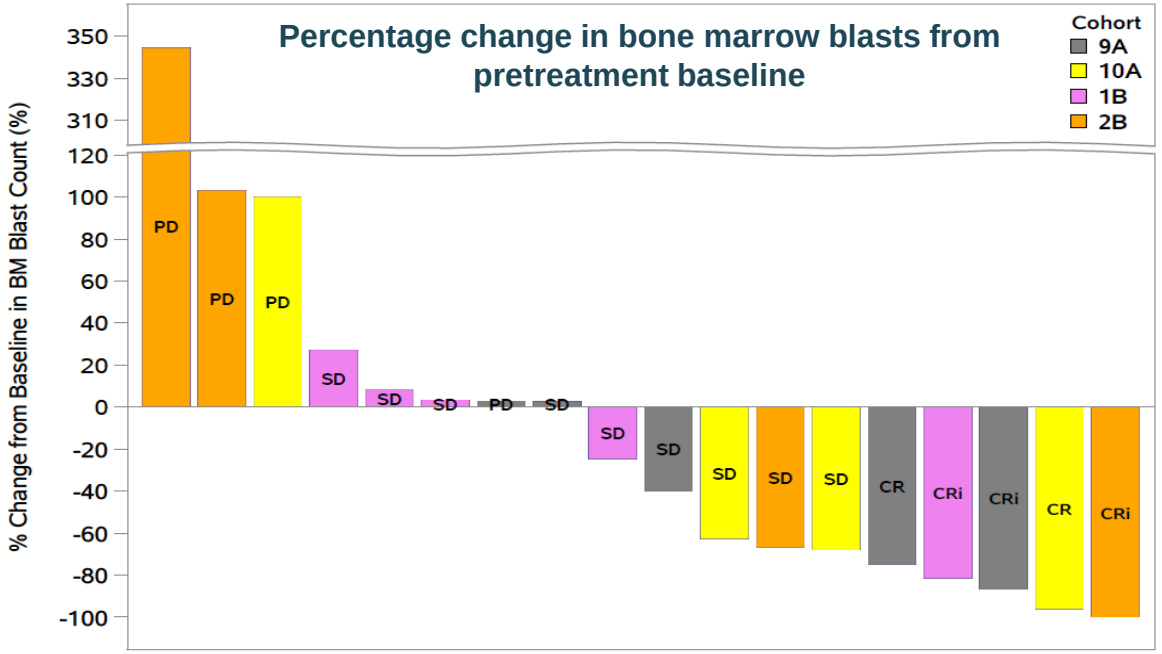
Collaboration with Novartis, U.S. Commercial Rights Retained

- Worldwide 50/50 cost share boosts development resources
- $325M in milestones remaining, including $90M in development milestones; low double-digit royalties on ex-U.S. sales

XmAb14045 Ongoing Phase 1 Study in Relapsed/Refractory AML: Initial Dose-escalation Data Presented at ASH 2018

Encouraging clinical activity

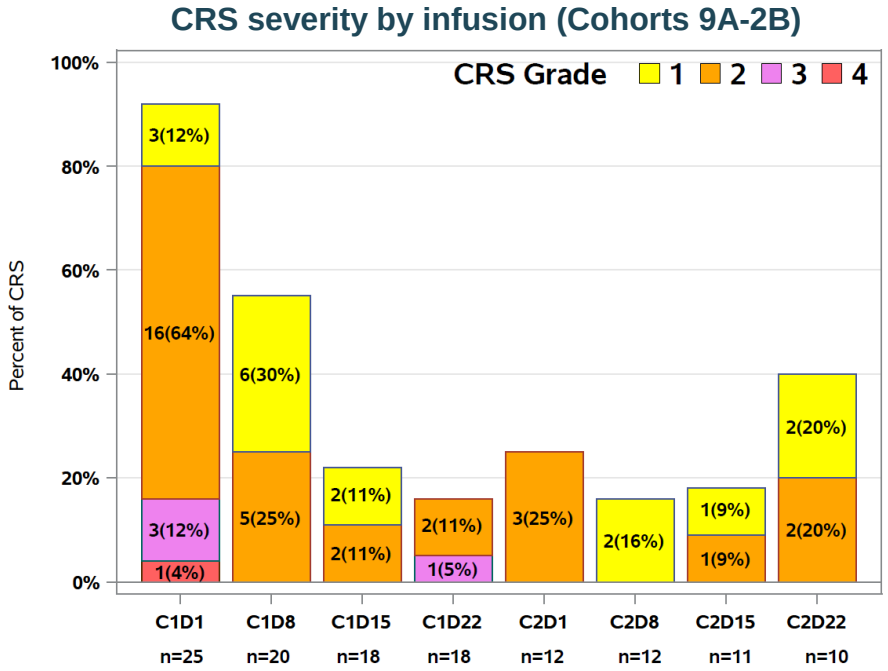
- 28% of evaluable patients achieved either complete remission (CR) or CR with incomplete hematologic recovery (CRi) at 2 highest initial doses (1.3 and 2.3 mcg/kg weekly)
- 2 patients with responses bridged to stem cell transplant; additional patient (transplant-ineligible) has remained in remission for 16+ weeks after discontinuation of therapy
- Dose escalation and dosing optimization continues



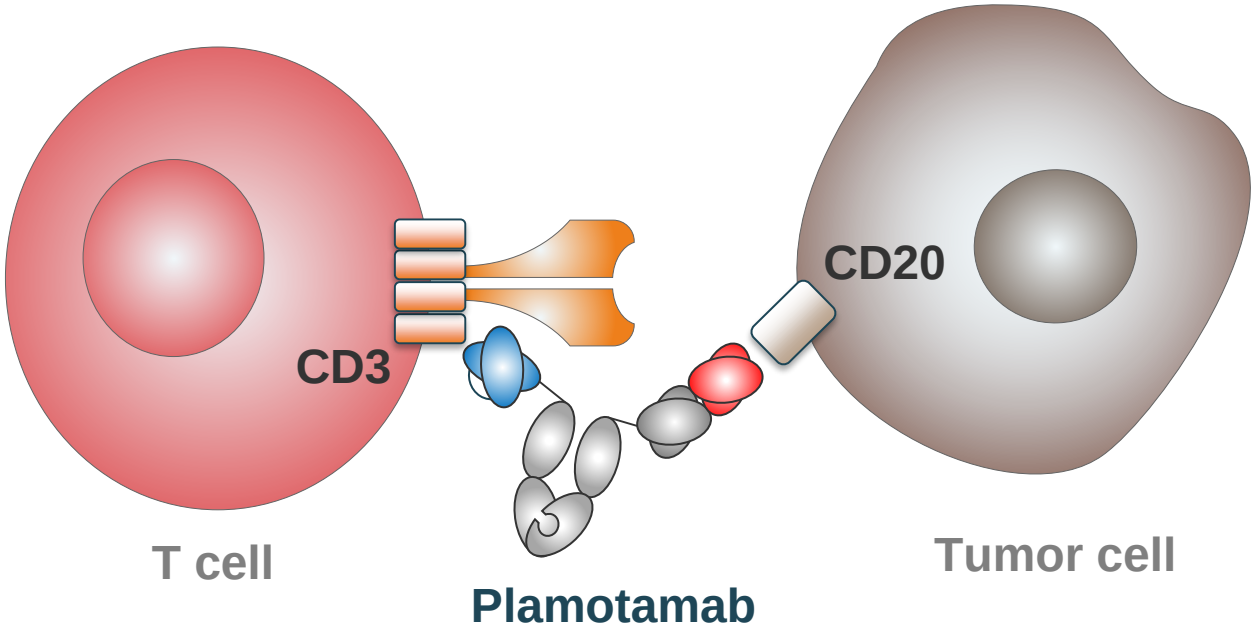
XmAb14045 Ongoing Phase 1 Study in Relapsed/Refractory AML: Initial Dose-escalation Data Presented at ASH 2018

Manageable cytokine release syndrome (CRS)

- Enrolled 66 heavily-pretreated patients
  - Median 3 prior therapies
  - 86% refractory to last therapy
  - 53% categorized as adverse risk (ELN 2017)
- CRS most common toxicity (55%)
  - CRS more severe on first dose
  - 6% experienced Grade 3 or 4 CRS
  - 29% experienced AEs within 24 hours consistent with CRS but not reported as such
- No clear evidence of drug-related myelosuppression



Plamotamab (XmAb®13676): CD20 x CD3 Bispecific Antibody

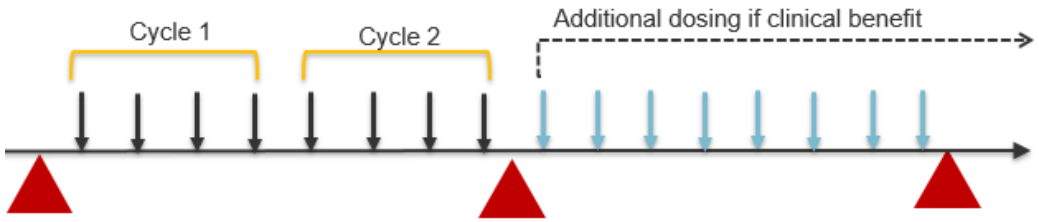


- Potent redirection of T-cell killing toward CD20-expressing cells
- Full-length construct provides improved pharmacokinetics
- “Tunable” binding affinity allows optimization of potency and safety
- No FcγR binding prevents Fc domain-mediated CD3 crosslinking and activation

Phase 1 Study Design:
Part A & Part B, weekly dosing, NHL & CLL groups

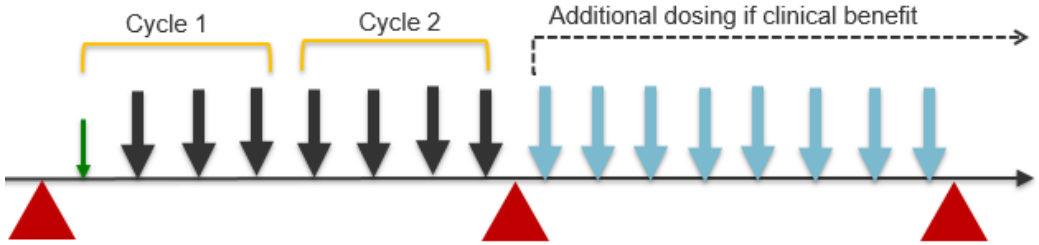
Part A

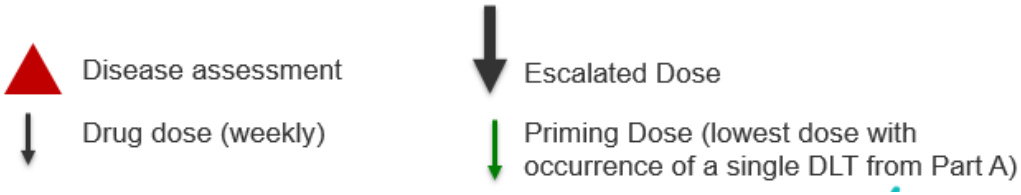
Establish dose cohorts to establish priming dose in a 28-day cycle



Part B

Establish an MTD using the priming dose on C1D1 and fixed or step-up dosing





Part A Dosing Schedule

Cohort (Part A)	Planned Weekly Dose (µg/kg)	Patients
1A	0.7	1 (+2+3)
2A	2.4	1 (+2+3)
3A	7.5	1 (+2+3)
4A*	20	3 (+3)
5A	45	3 (+3)
6A	80	3 (+3)
7A	125	3 (+3)
8A	170	3 (+3)

*CLL group is currently at Cohort 4A (20 µg/kg)

Part B Dosing Schedule - NHL

Cohort (NHL)	Dosing Schedule (µg/kg)							Patients
	C1D1 (Priming dose)	C1D8	C1D15	C1D22	C2D1	C2D8	C2D15 +	
1B	80	125	125	125	125	125	125	3 (+3)
2B*	45	80	125	170	170	170	170	3 (+3)
3B	45	80	125	170	250	250	250	3 (+3)
4B	45	80	125	170	250	360	360	3 (+3)
5B	45	80	125	170	250	360	500	3 (+3)
Expansion	MTD or RD cohort							<20

- Priming dose determined to be 45 µg/kg for step-up dosing;
- Cohort 2B completed – dose escalation continues

XmAb13676 Phase 1 Initial Data – Patient Disposition

- 53 patients treated with XmAb13676 included in safety analysis
  - NHL: n=45
    - DLBCL patients receiving highest doses of 80-170 µg/kg included in the anti-tumor activity analysis (n=18)
  - CLL: n=8

	NHL n=45 (%)	CLL n=8 (%)	Overall n=53 (%)
Remained on treatment	10 (22.2)	0	10 (18.9)
Discontinued treatment	35 (77.8)	8 (100.0)	43 (81.1)
Adverse event	4 (8.9)	3 (37.5)	7 (13.2)
Physician decision	2 (4.4)	0	2 (3.8)
Progressive disease	15 (33.3)	2 (25.0)	17 (32.1)
Withdrawal by patient	4 (8.9)	0	4 (7.5)
Insufficient clinical response	8 (17.8)	2 (25.0)	10 (18.9)
Other	2 (4.4)	1 (12.5)	3 (5.7)

Patient Baseline Characteristics – DLBCL (ASH 2019)

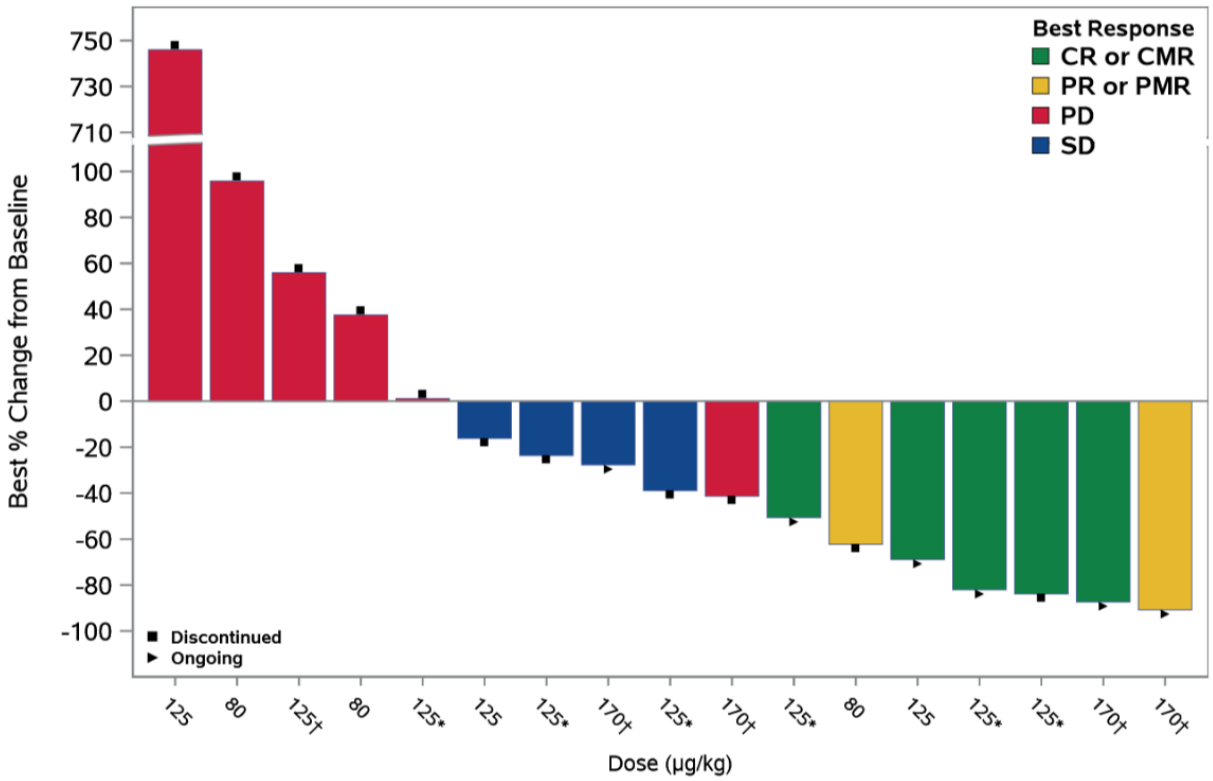
18 Patients Evaluable for Anti-Tumor Activity (Received Highest Doses of 80-170 µg/kg)

Characteristics	Overall (n=18)
Median age, years (range)	63.5 (48, 82)
Male, n (%)	9 (50.0)
ECOG performance status, n (%)	
0	6 (33.33)
1	9 (50.00)
2	3 (16.67)
Median time since initial diagnosis, months (range)	21.5 (6, 353)
Ann Arbor Stage at enrollment, n (%)	
Limited Stage II	2 (11.1)
Advanced/Stage II Bulky	1 (5.6)
Advanced/Stage III	2 (11.1)
Advanced/Stage IV	11 (61.1)
Unknown	2 (11.1)
Median number of prior systemic therapy, n (range)	3 (1, 6)
Best response to last systemic therapy, n (%)	
Complete remission	2 (11.1)
Partial remission	6 (33.3)
Stable disease	2 (11.1)
Progressive disease	6 (33.3)
Not assessed	2 (11.1)
Relapsed/progression after last systemic therapy, n (%)*	
Yes	14 (77.8)
No	3 (16.7)
Median duration of response to last systemic therapy, weeks (range)	21.1 (8, 60)

*Relapse/progression status of 1 patient is missing. Three patients (16.7%) had prior transplantation.

Encouraging Clinical Activity and Dose Dependent Activity in Initial Dosing Cohorts – DLBCL (ASH 2019)

DLBCL population with doses at 80 µg/kg or higher (N=18)



CMR: complete metabolic response; PMR: partial metabolic response.
CR: complete response; ORR: objective response rate.

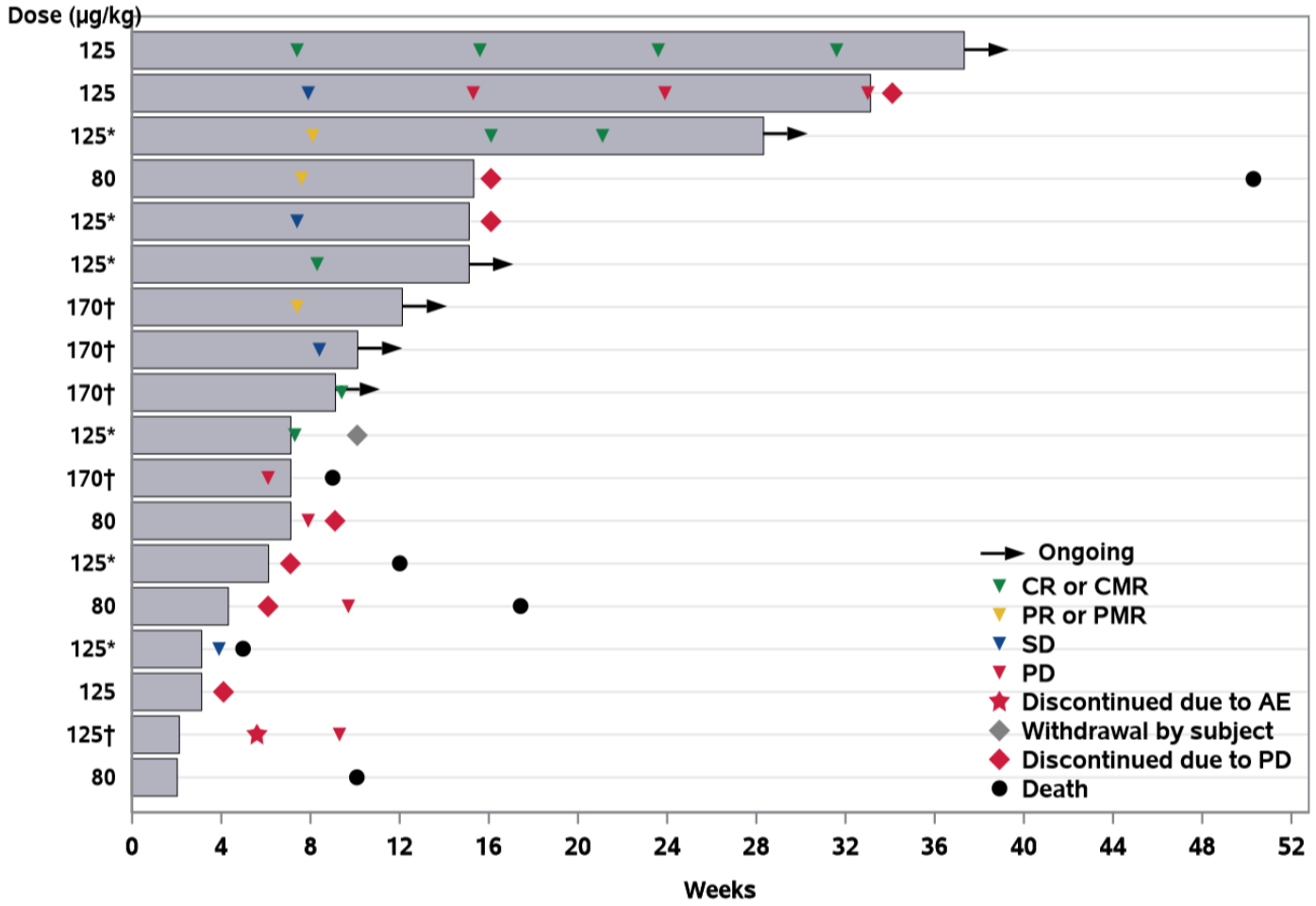
*Includes patients with 125 µg/kg flat dosing and 80/125 µg/kg step-up dosing
† step-up dosing 45/80/125/170 µg/kg.

Safety Population

Overall	
ORR	7/18 (38.9)
CR	5/18 (27.8)
80 µg/kg	
ORR	1/4 (25.0)
CR	0
125 µg/kg*	
ORR	4/10 (40.0)
CR	4/10 (40.0)
170 µg/kg†	
ORR	2/4 (50.0)
CR	1/4 (25.0)

Time on Treatment – DLBCL (ASH 2019)

Evaluable for Anti-Tumor Activity (Received Highest Doses of 80-170 µg/kg)



CMR=complete metabolic response; PMR=partial metabolic response.

Plamotamab Was Generally Well Tolerated (ASH 2019)

- Most events were Grade 1 or 2
- 52.8% of patients experienced at least 1 CRS event
  - Of these CRS events, 89% were Grade 1 or 2
  - 5.7% of patients experienced Grade 3 or 4 CRS events
  - Most common symptoms were pyrexia, hypotension, chills, tachycardia and hypertension
- Nervous system disorders occurred in 49.1% of patients
  - Most common were dizziness, headache, paresthesia and lethargy
  - These events were Grade 1 or 2 in severity, except for one Grade 3 headache
  - 1 patient experienced Grade 2 short-term encephalopathy during a CRS event

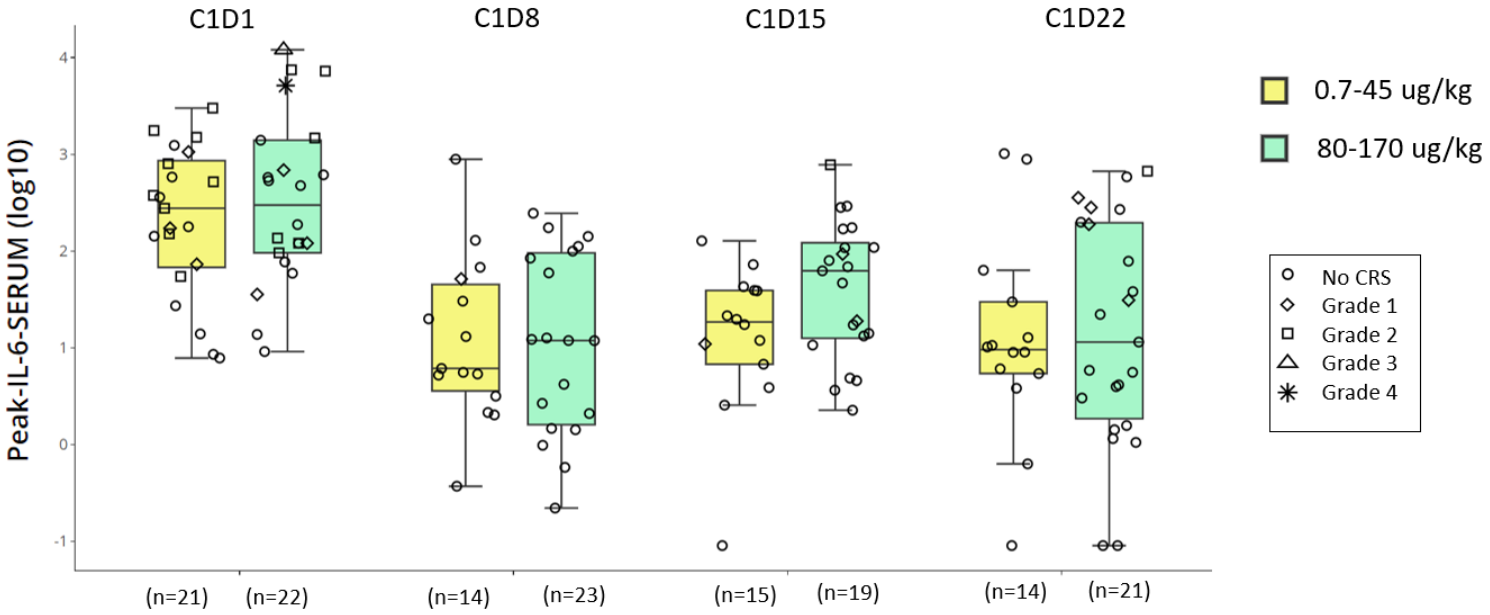
Summary of Treatment-Emergent Adverse Events – Safety Evaluable

Event, n (%)	NHL (N=45)	CLL (N=8)	Overall (N=53)
Any TEAE	45 (100.0)	8 (100.0)	53 (100.0)
Any serious TEAE	24 (53.3)	5 (62.5)	29 (54.7)
Leading to drug withdrawn	4 (8.9)	3 (37.5)	7 (13.2)
Most common TEAEs (≥15)			
Pyrexia	26 (57.8)	3 (37.5)	29 (54.7)
Cytokine release syndrome	25 (55.6)	3 (37.5)	28 (52.8)
Anemia	19 (42.2)	3 (37.5)	22 (41.5)
Diarrhea	12 (26.7)	2 (25.0)	14 (26.4)
Asthenia	10 (22.2)	3 (37.5)	13 (24.5)
Hypotension	12 (26.7)	1 (12.5)	13 (24.5)
Thrombocytopenia	11 (24.4)	2 (25.0)	13 (24.5)
Chills	11 (24.4)	1 (12.5)	12 (22.6)
Cough	10 (22.2)	2 (25.0)	12 (22.6)
Fatigue	8 (17.8)	4 (50.0)	12 (22.6)
Neutropenia	10 (22.2)	2 (25.0)	12 (22.6)
Constipation	10 (22.2)	1 (12.5)	11 (20.8)
Hypokalemia	10 (22.2)	0	10 (18.9)
Edema peripheral	6 (13.3)	4 (50.0)	10 (18.9)
Tachycardia	8 (17.8)	2 (25.0)	10 (18.9)
Dizziness	9 (20.0)	0	9 (17.0)
Dyspnea	7 (15.6)	2 (25.0)	9 (17.0)
Headache	8 (17.8)	1 (12.5)	9 (17.0)
Nausea	7 (15.6)	1 (12.5)	8 (15.1)
Upper respiratory tract infection	7 (15.6)	1 (12.5)	8 (15.1)
Grade ≥3 events, n (%)			
Any TEAE Grade ≥3	31 (68.9)	6 (75.0)	37 (69.8)
Most common TEAEs (≥5%)			
Anemia	11 (24.4)	1 (12.5)	12 (22.6)
Neutropenia	7 (15.6)	1 (12.5)	8 (15.1)
Thrombocytopenia	5 (11.1)	1 (12.5)	6 (11.3)
Lymphopenia	4 (8.9)	1 (12.5)	5 (9.4)
Cytokine release syndrome	2 (4.4)	1 (12.5)	3 (5.7)
Hypokalemia	3 (6.7)	0	3 (5.7)

Note: AEs were graded based on CTCAE version v4.03, except for CRS, which was graded according to the Lee criteria (Blood. 2014;124(2):188-95)

CRS Events More Frequent, Generally Higher Grade at C1D1 Dose (ASH 2019)

- Peak serum IL6 levels correlate to CRS symptoms
  - IL6 levels are highest on C1D1 dose



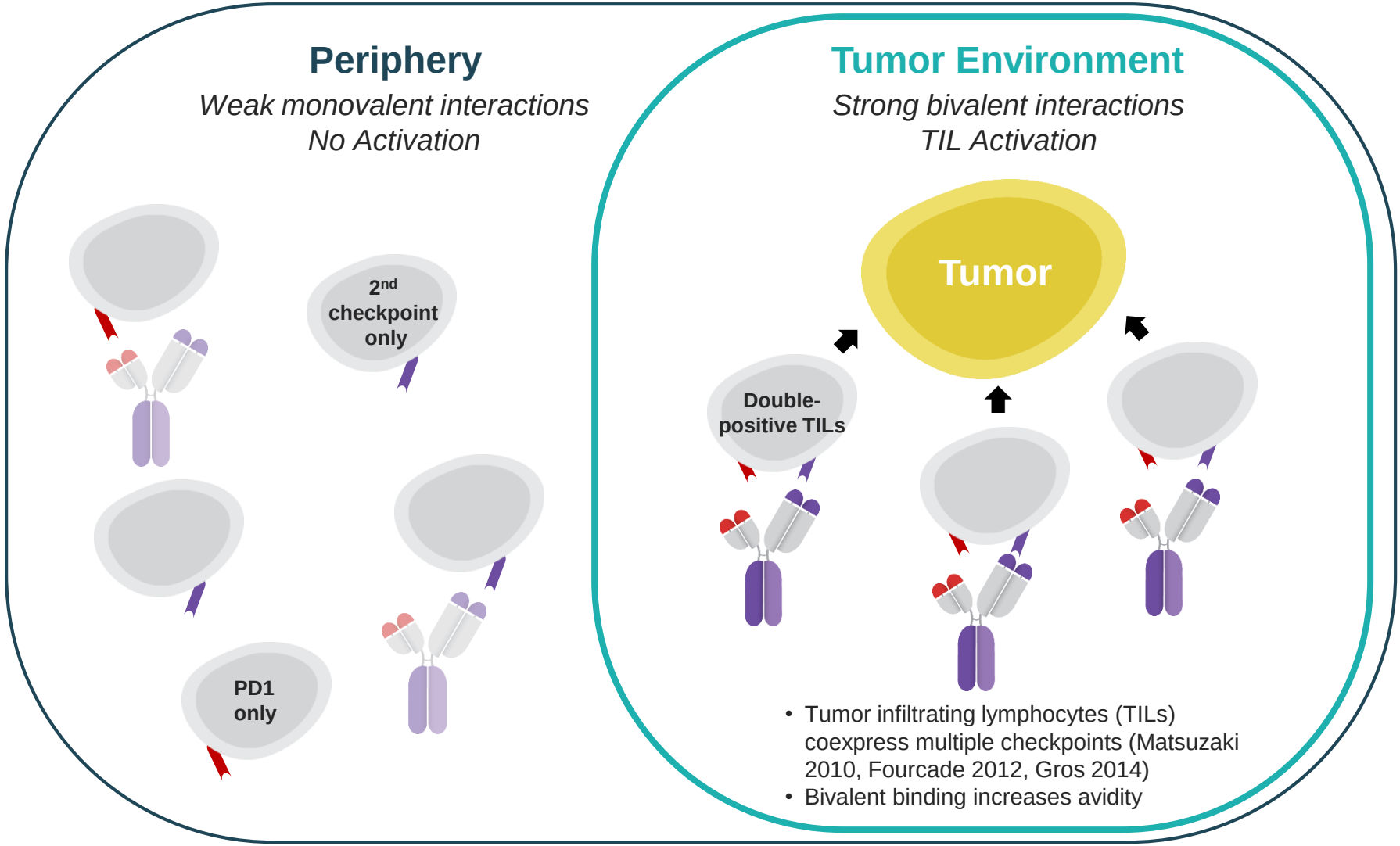
CRS Grades by NHL Dose Groups in Treatment Cycle 1

First dose (Cycle 1, Day 1 [C1D1])				
	No CRS	Grade 1	Grade 2	≥ Grade 3
> 45 mcg/kg	50.0%	13.6%	27.2%	9.1%
≤ 45 mcg/kg	42.9%	14.3%	42.9%	0%
Doses on Days 8, 15 or 22 (C1D8, C1D15 or C1D22)				
	No CRS	Grade 1	Grade 2	≥ Grade 3
> 45 mcg/kg	87.3%	9.5%	3.2%	0%
≤ 45 mcg/kg	95.3%	4.7%	0%	0%

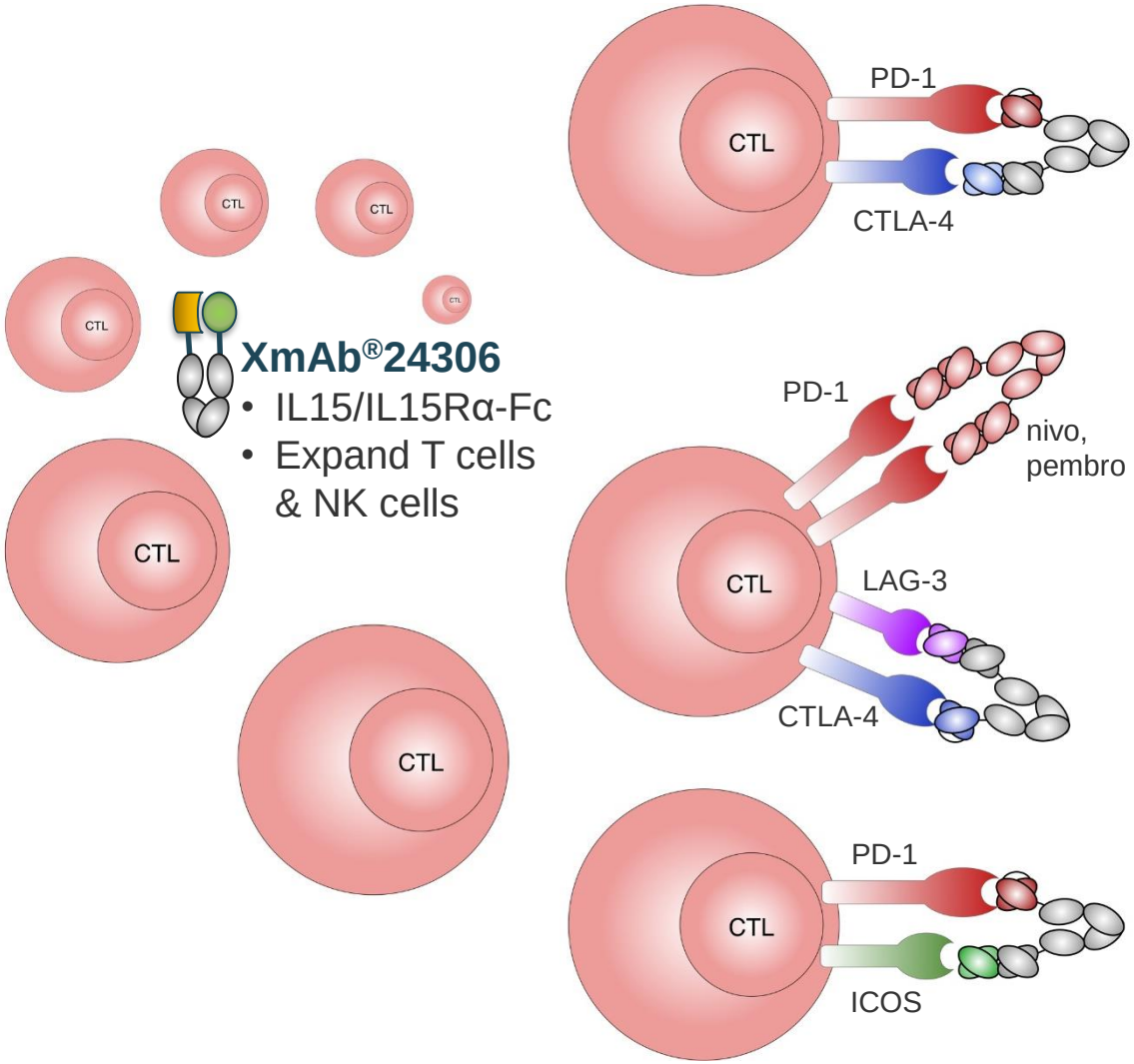
Plamotamab is Generally Well Tolerated with Encouraging Signs of Clinical Activity in Early Dosing (ASH 2019)

- Plamotamab was generally well tolerated
  - CRS, an AE associated with this class of agents, was observed in 52.8% of patients
  - Most CRS events occurred with the first dose of plamotamab and were Grade 1 and 2 by the Lee criteria
  - There were no Grade 3 or 4 CRS events once step-up dosing was implemented
  - Nervous system disorders were generally mild and did not lead to discontinuation of treatment
- Plamotamab demonstrated clinical activity in DLBCL at doses of 80 µg/kg and higher in a dose-dependent manner
- Additional responses have been observed in Waldenström macroglobulinemia and Richter transformation of CLL, both CRs and both at 20 µg/kg; and in follicular lymphoma at step-up dosing to 170 µg/kg, also a CR (1/5 patients treated at ≥ 80µg/kg)
- PK was dose proportional
- Dose escalation and schedule optimization are ongoing

Xencor's Dual Checkpoint/Co-Stim Bispecifics are Designed to Promote Tumor-Selective T Cell Targeting



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



XmAb®24306

- IL15/IL15Rα-Fc
- Expand T cells & NK cells

XmAb®20717

- PD-1 x CTLA-4 bispecific
- Two most validated checkpoint receptors
- Phase 1 study initiated July 2018

XmAb®22841

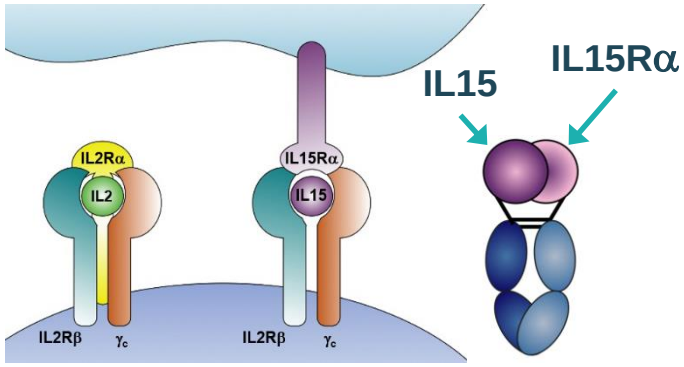
- CTLA-4 x LAG-3 bispecific
- Combinable with anti-PD1
- Triple checkpoint blockade
- Phase 1 study initiated May 2019

XmAb®23104

- PD-1 x ICOS bispecific
- Novel checkpoint x co-stim pairing
- Phase 1 study initiated May 2019

Genentech Collaboration Boosts Development Resources for Novel IL15 Cytokine Combinations for Oncology

Comparing IL15 & IL2



XmAb24306

- IL15 is a highly active immune signaling protein that stimulates tumor killing NK cells and CD8+ T cells
- IL2 and IL15 share IL2Rβγ receptor interactions, but IL-15 avoids biased T reg activation
- Xencor's IL15 cytokines are built on a heterodimeric Fc domain and have potency tuned to improve therapeutic index, and incorporate Xtend™ for longer half-life

Genentech
A Member of the Roche Group

xencor

Extensive clinical strategy to explore numerous combinations with Genentech's leading oncology portfolio

- Two-year research collaboration for IL15 programs
- Xencor retains ability to perform clinical studies, subject to requirements
- Xencor shares in 45% worldwide P&L and development costs; co-promotion option in U.S.
- Genentech receives worldwide commercial license to lead IL15 cytokine XmAb24306
- $120M upfront and up to $160M in XmAb24306 development milestone payments; up to $180M for each new IL15 program
- Open IND for XmAb24306

Xencor's Expanding Bispecific Oncology Pipeline

CD3 T Cell Engager | TME Dual Checkpoint/Co-stim | IL Cytokine-Fc

Program (Platform & Fc Domain)	Targets	Primary Indication	Discovery Lead	Preclinical	Phase 1	Commercial Rights
CD3 **XmAb14045** bispecific	**CD123 x CD3**	AML				xencor / NOVARTIS
CD3 **Plamotamab** bispecific	**CD20 x CD3**	B-cell cancer				xencor
CD3 **XmAb18087** bispecific	**SSTR2 x CD3**	GEP-NET GIST				xencor
TME **XmAb20717** bispecific/Xtend	**PD-1 x CTLA-4**	Oncology				xencor
CD3 **AMG 424** bispecific	**CD38 x CD3**	Myeloma				AMGEN
TME **XmAb22841** bispecific/Xtend	**CTLA-4 x LAG-3**	Oncology				xencor
TME **XmAb23104** bispecific/Xtend	**PD-1 x ICOS**	Oncology				xencor
XmAb Bispecific bispecific	**Undisclosed**	Oncology				NOVARTIS
IL **XmAb24306** bispecific/Xtend	**IL15Rβγ** (IL15/IL15Ra-Fc)	Oncology		OPEN IND		Genentech A Member of the Roche Group
CD3 **AMG 509** 2+1 bispecific	**STEAP1 x CD3**	Prostate cancer				AMGEN

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Antibodies by Design™

XmAb® Antibody Therapeutics

Corporate Overview

January 2020