Antibodies by Design™

XmAb® Antibody Therapeutics

Corporate Overview

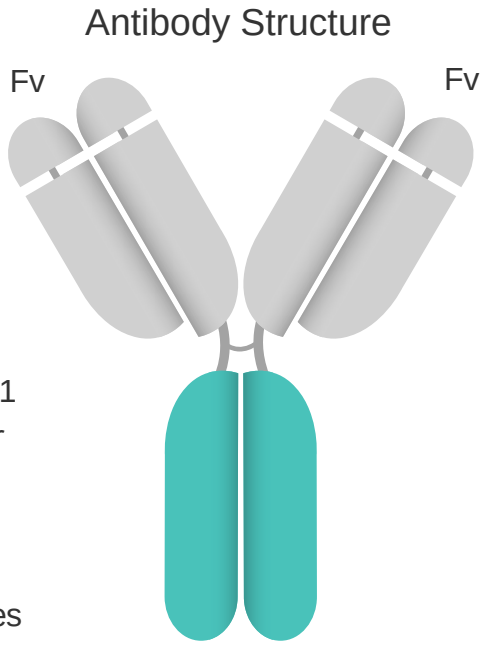
August 2019

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 antibody oncology pipeline advancing
  - **7 XmAb bispecific antibodies in Phase 1 clinical studies**
  - 2 tumor microenvironment activators entered Phase 1 in Q2 2019
  - Novartis co-development and ex-U.S. license for XmAb14045 (CD123 x CD3), in Phase 1
  - Amgen's AMG 424 in Phase 1 study in myeloma, advancing AMG 509 in prostate cancer
- Genentech co-development collaboration for novel IL15 cytokines
  - Wide-ranging combination strategy critical to advancing cytokines
  - Retained ability to perform clinical studies with broad spectrum of leading cancer therapies
  - IND submission for XmAb24306 in H2 2019
- 14 XmAb clinical programs ongoing internally or with partners, including tafasitamab/MOR208 (Morphosys) in Phase 3 and Ultomiris® (Alexion) approved in the U.S., Japan and EU for the treatment of adult patients with PNH



XmAb® Fc Domains

NOVARTIS AMGEN ALEXION Genentech A Member of the Roche Group

morphosys CSL Boehringer Ingelheim astellas

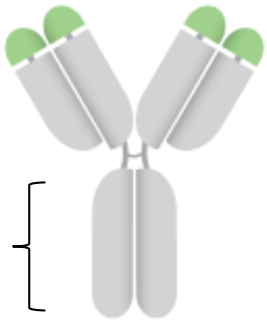
xencor

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

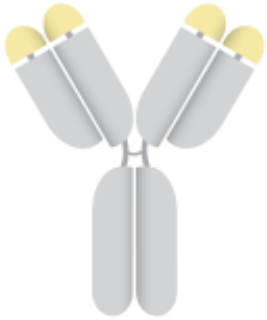
Standard Technology

Fv focus

Same Fc



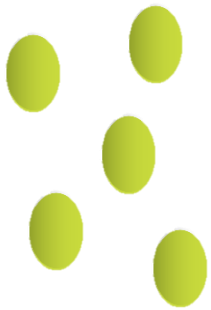
Soliris®



Rituxan®

anti-CD19 antibody

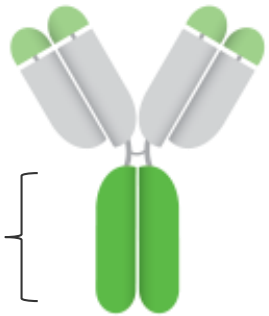
Fv bispecifics



cytokines

XmAb Fc Engineering

Xencor Fc Domains



Ultomiris®
(ALXN1210)

tafasitamab
(MOR208/XmAb5574)

obexelimab
(XmAb5871)

XmAb bispecifics

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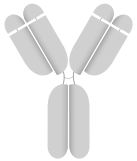
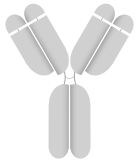
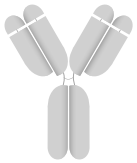
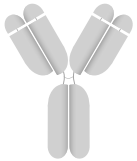
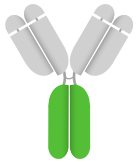
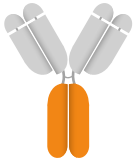
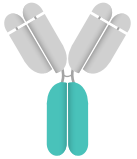
XmAb® Fc Domains Augment Natural Antibody Functions

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*
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

* 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

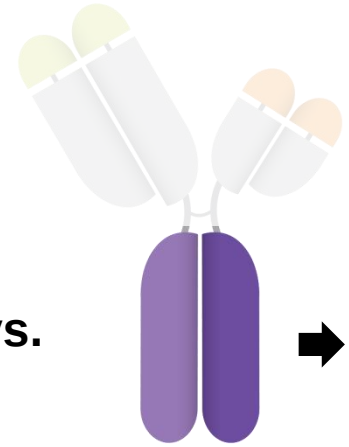
Program	Fc Domain	Primary Indication	Preclinical	Phase 1	Phase 2	Phase 3	Approved	Commercial Rights
Ultomiris® (ALXN1210)	Xtend	PNH						Alexion
Tafasitamab (MOR208/XmAb5574)	Cytotoxic	NHL/CLL						Morphosys
Talacotuzumab	Cytotoxic	Leukemia						CSL
BI 836858	Cytotoxic	Oncology						Boehringer Ingelheim
VRC01LS	Xtend	HIV						NIH
AMG424	Bispecific	Myeloma						Amgen
AMG509	Bispecific	Prostate cancer						Amgen
XmAb bispecifics x4	Bispecific	Oncology						Novartis
XmAb bispecific	Bispecific	Oncology						Astellas

Technology licensing expands pipeline with very little opportunity cost

XmAb® Bispecific Fc Programs

XmAb® Bispecific Fc Domains Retain Beneficial Natural Antibody Properties

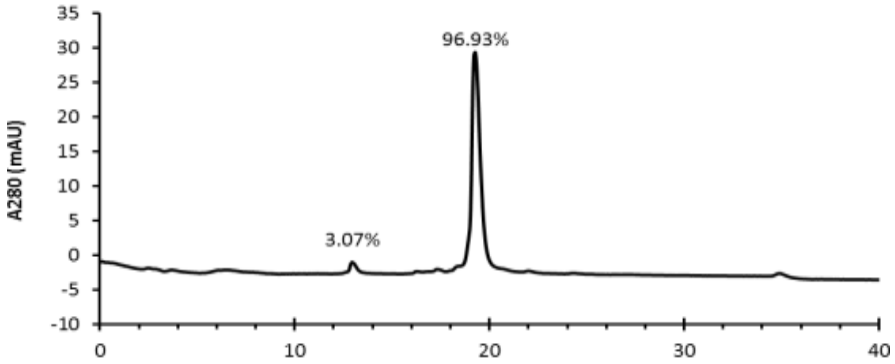
vs.



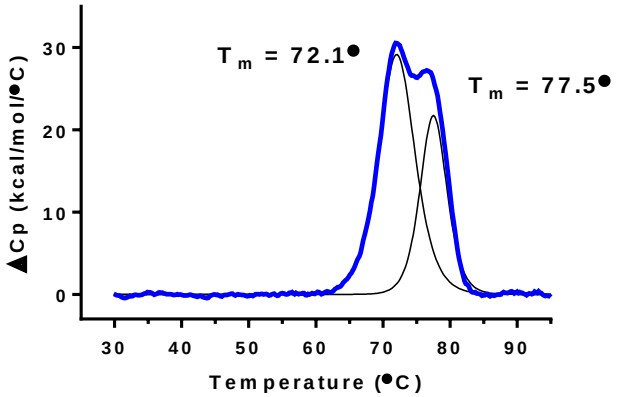
- **Enhanced separation**
- **Heterodimer favored**
- **High stability**

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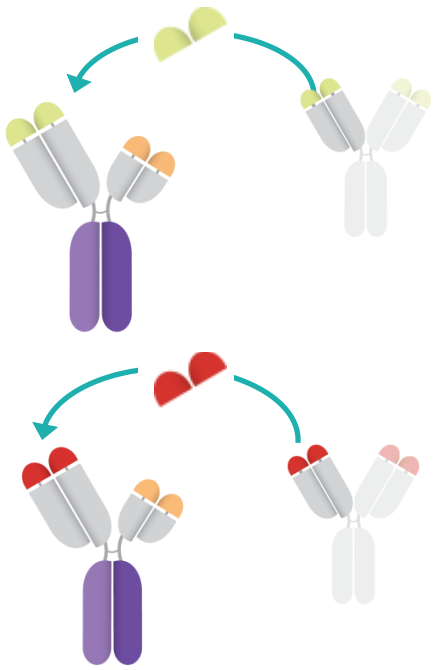
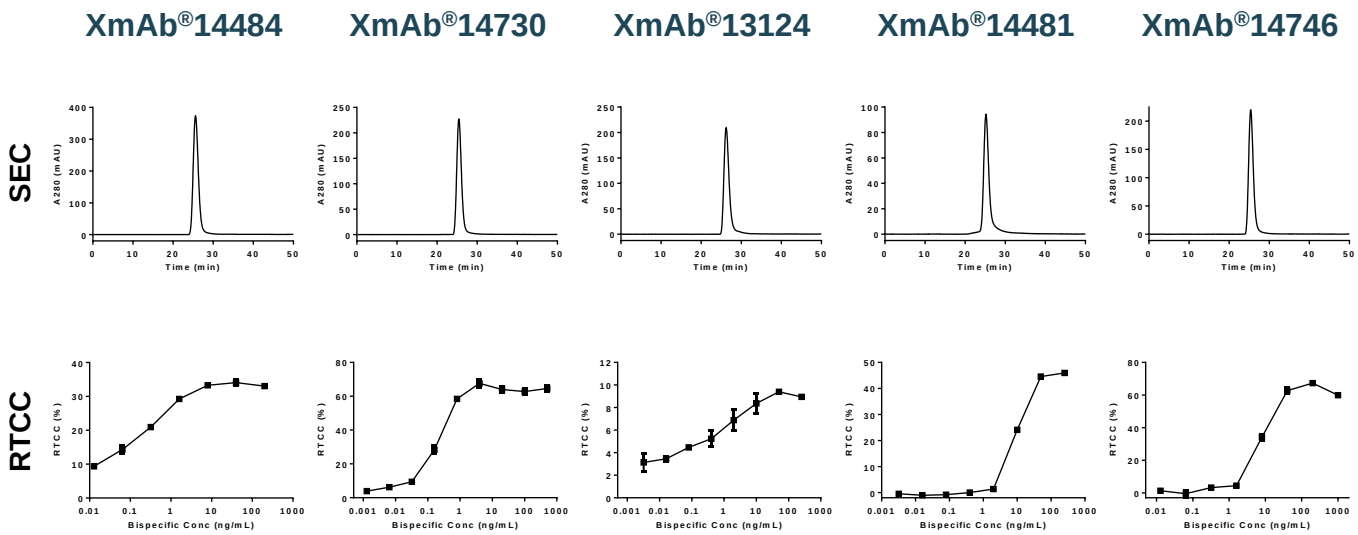
Plug-and-play Fc Domain Enables Rapid Pipeline Generation and Prototyping

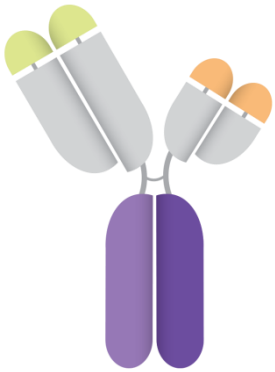




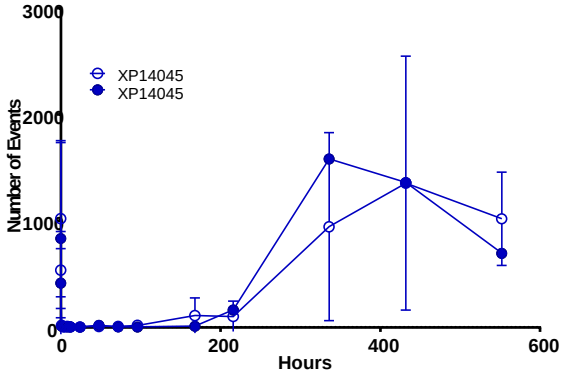
- Portfolio of CD3 bispecific molecules generated for development
  - Target T cells against tumors
- New oncology programs rapidly prototype different target combinations

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

XmAb®14045 (CD123 x CD3)

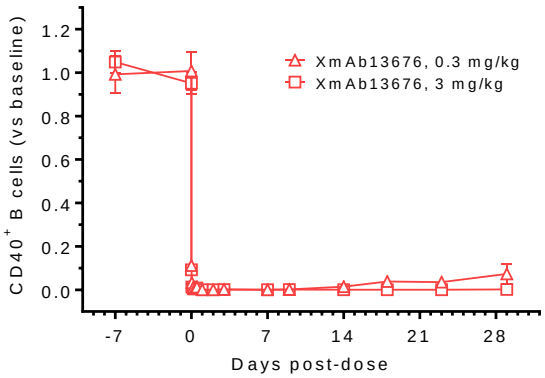


Cynomolgus monkey, single IV bolus
Profound, sustained basophil depletion



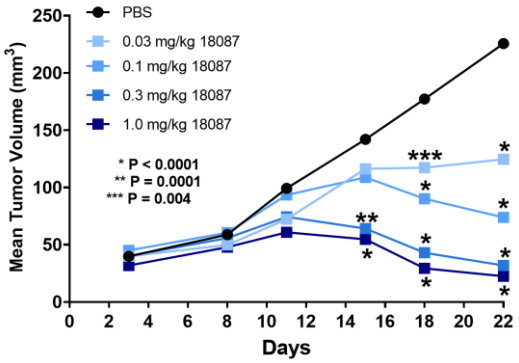
XmAb®13676 (CD20 x CD3)

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



XmAb®18087 (SSTR2 x CD3)

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



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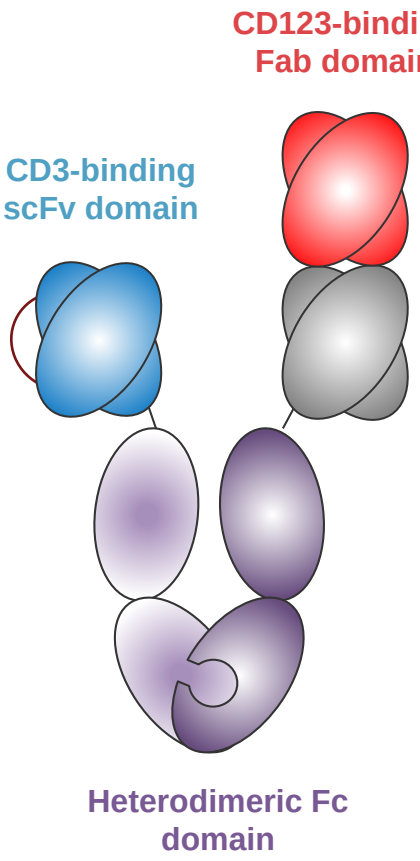
XmAb®14045: CD123 x CD3 Bispecific Antibody – A Full Length mAb to Be Dosed Intermittently



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

Phase 1 Study in relapsed/refractory AML

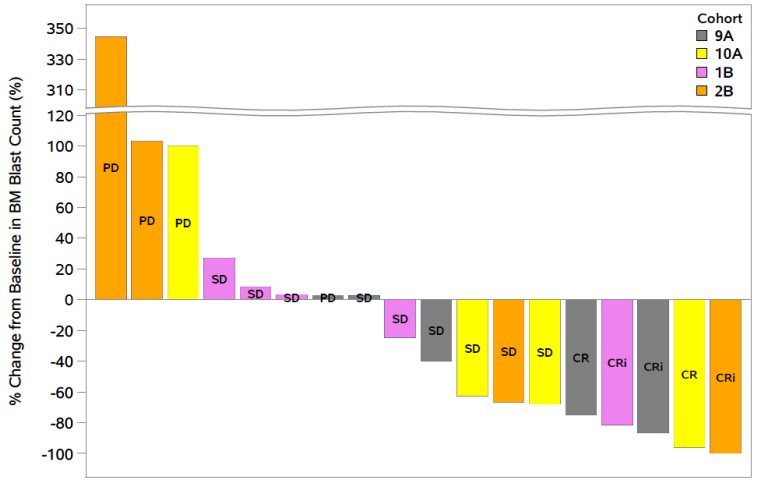
- Encouraging data, 28% CR/CRi, presented at ASH 2018

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

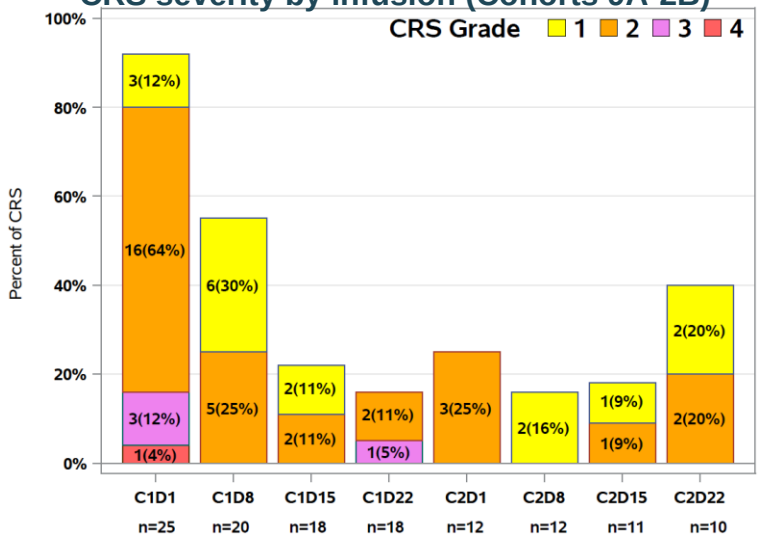
Encouraging clinical activity

- 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

Percentage change in bone marrow blasts from pretreatment baseline



CRS severity by infusion (Cohorts 9A-2B)



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

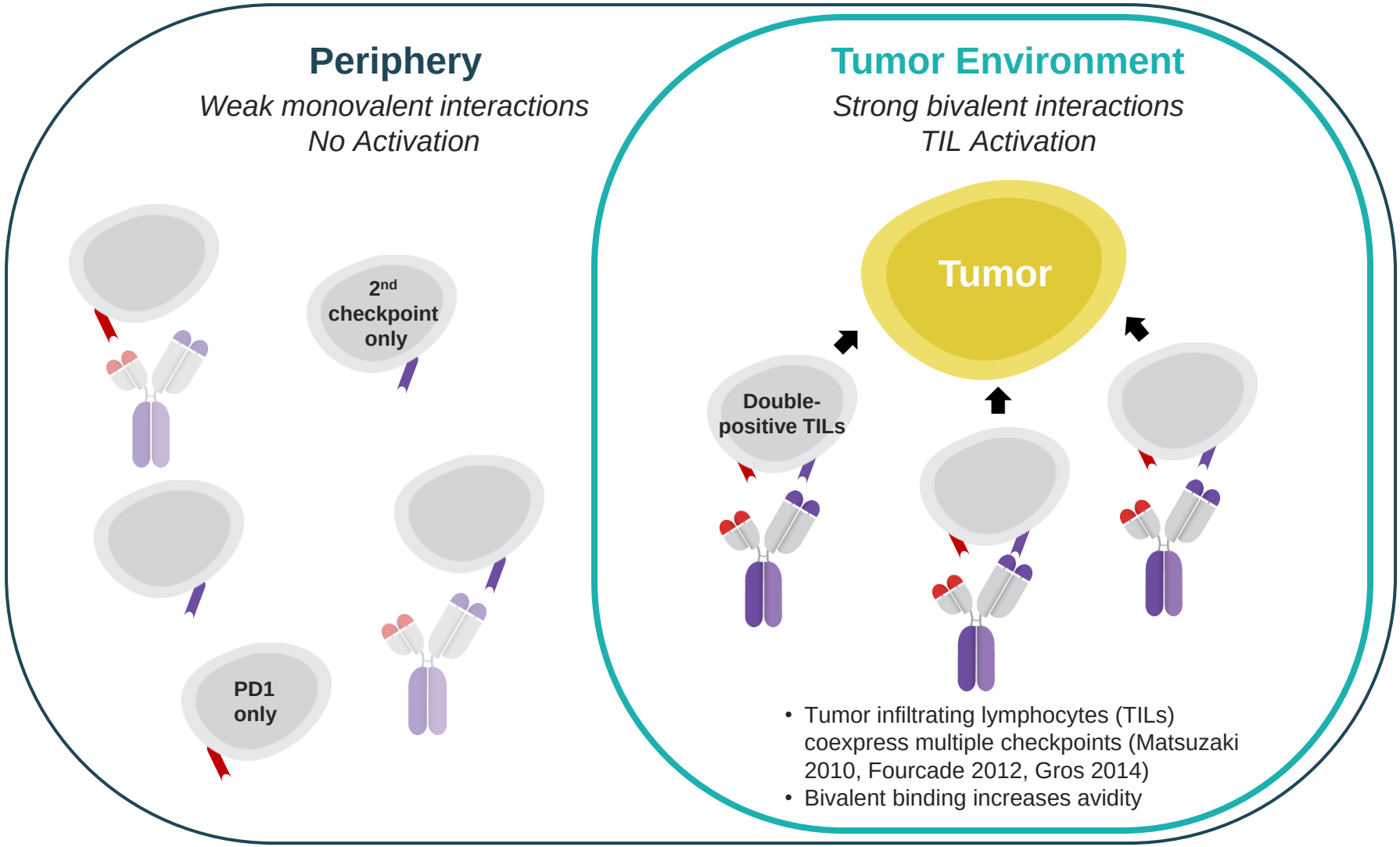
Novartis Collaboration for XmAb®14045 Boosts Development Resources and Retains U.S. Commercial Rights

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

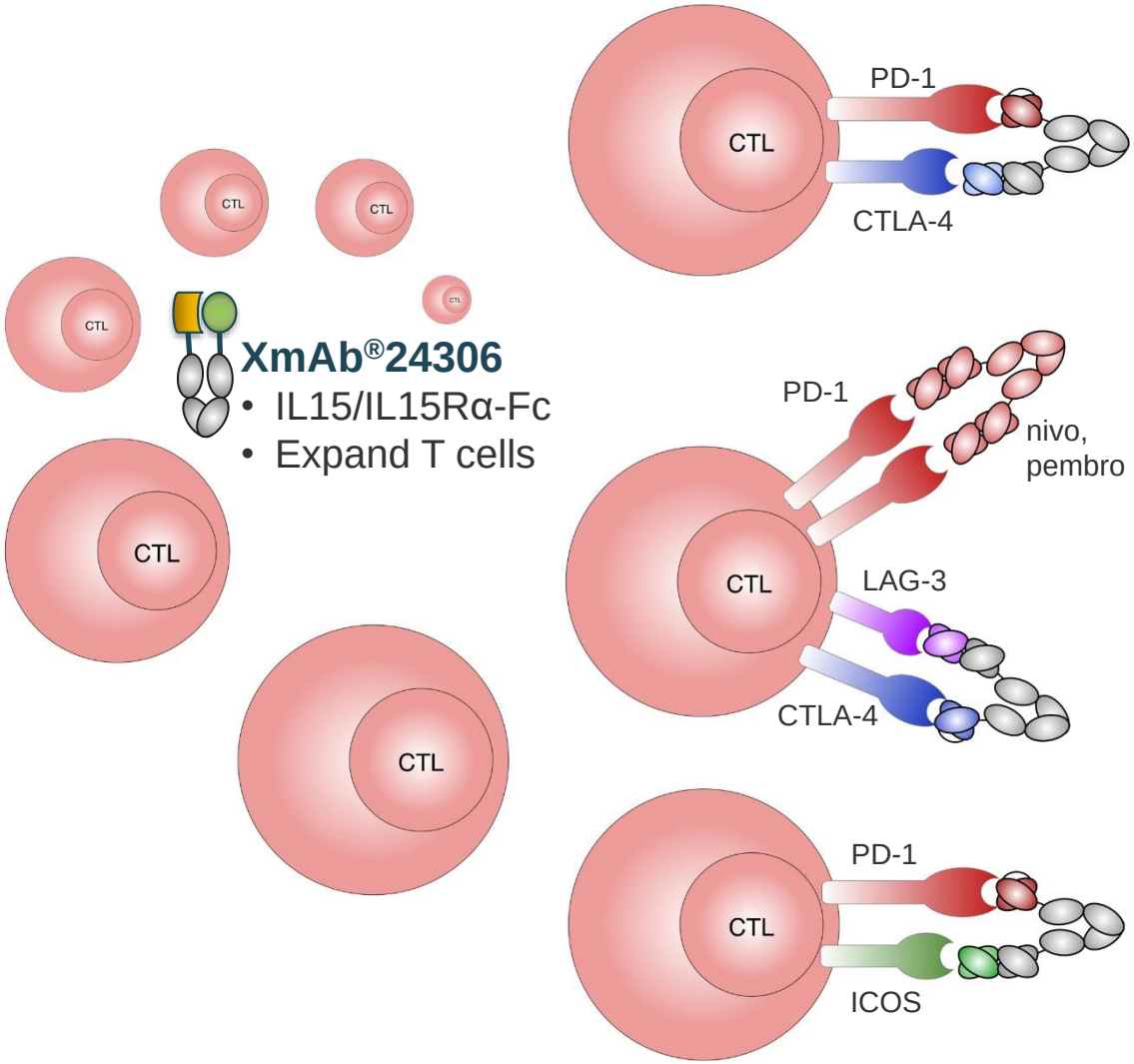
- Novartis receives ex-U.S. commercial rights to XmAb14045
  - $325M in milestones, including $90M in development milestones
  - Low double-digit royalties on ex-U.S. sales
- Xencor retains all U.S. commercial rights to XmAb14045
- Worldwide 50/50 development collaboration and cost share
- Research collaboration 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, $2.1B total potential milestones, royalties

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

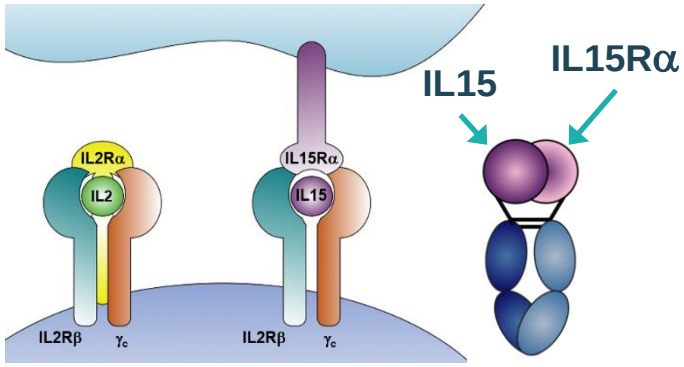
XmAb®20717
- PD-1 x CTLA-4 bispecific
- Two most validated checkpoint receptors
- Phase 1 study initiated July 2018

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 preclinical IL15 cytokine XmAb24306
- $120M upfront and up to $160M in XmAb24306 development milestone payments; up to $180M for each new IL15 program
- IND application for XmAb24306 planned H2 2019

Xencor's Expanding Bispecific Oncology Pipeline

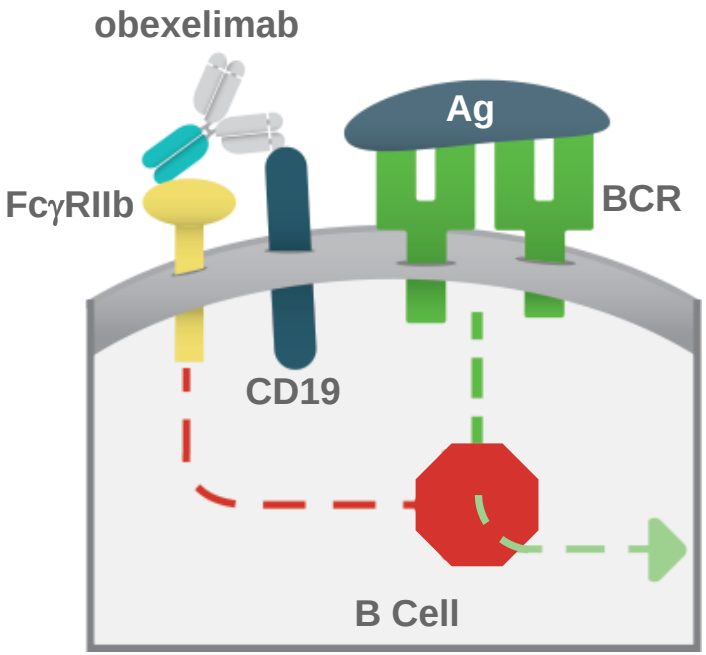
CD3 T Cell Engager | TME Dual Checkpoint/Co-stim | IL Cytokine-Fc

	Program (Platform & Fc Domain)	Targets	Primary Indication	Discovery Lead	Preclinical	Phase 1	Commercial Rights
CD3	**XmAb14045** bispecific	**CD123 x CD3**	AML				xencor / NOVARTIS
CD3	**XmAb13676** 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	**AMG424** 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
IL	**XmAb24306** bispecific/Xtend	**IL15Rβγ** (IL15/IL15Ra-Fc)	Oncology				Genentech A Member of the Roche Group
	AMG509 bispecific	**Undisclosed**	Prostate cancer				AMGEN
	XmAb Bispecific bispecific	**Undisclosed**	Oncology				astellas

obexelimab
(XmAb®5871)

Obexelimab Inhibits Multiple Pathways of B Cells Without Killing B Cells

Anti-CD19 with Immune Inhibitor Fc Domain



FcγRIIb binding up by ~400x

Potent suppression of B-cell responses without destroying B cells

- Phase 2 trials in IgG4-Related Disease and SLE
  - Final data on IgG4-RD presented at the American College of Rheumatology (ACR) Meeting in Nov. 2017
  - Topline data from SLE presented at ACR in Oct. 2018
- B-cell inhibition: proven for autoimmune disease
  - B-cell depletion (e.g., Rituxan) – RA, MS, others off-label
  - B-cell growth inhibition (Benlysta) – Lupus
- Current limitations of B-cell targeting antibodies
  - Tradeoff of potency against long-term B-cell ablation
  - No simple subcutaneous delivery

Obexelimab Target Product Profile

Monoclonal antibody that inhibits B-cell function to treat autoimmune diseases

No long-term immune suppression

Subcutaneous injection, every other week

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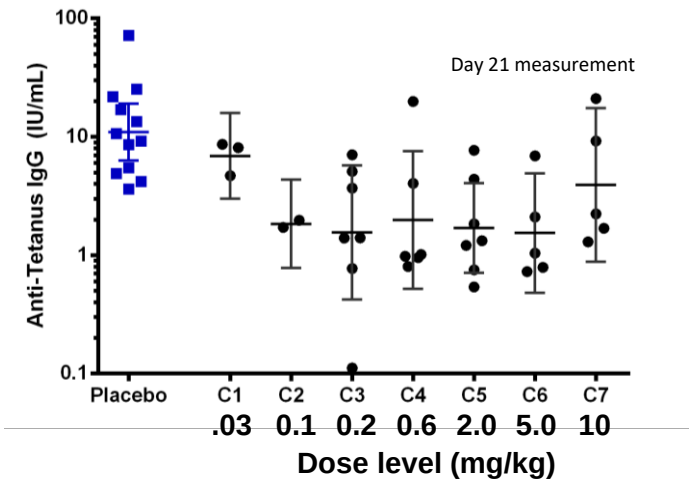
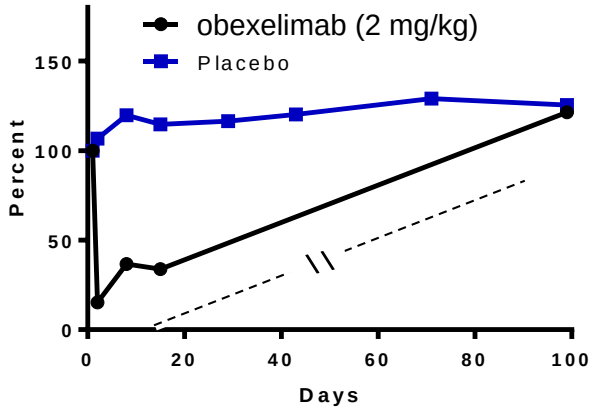
Obexelimab Phase 1a Data Show Potent and Reversible B-cell Inhibition

Inhibition of Antigen Challenge

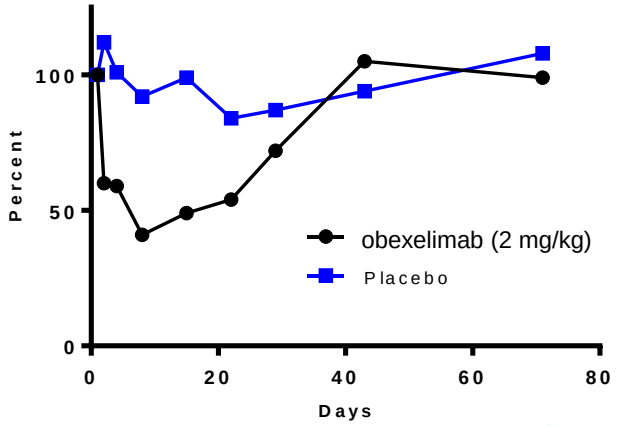


- **Single ascending dose in healthy male volunteers**
- **Potent, yet reversible, B-cell inhibition**
  - Observed effective suppression of B-cell responses to antigen without destroying B cells
  - Target best-in-class efficacy with better tolerability
- **Well tolerated**
  - Partial reduction in B cell counts, rapid recovery upon drug clearance
  - No dose limiting toxicity or serious adverse events (SAE)

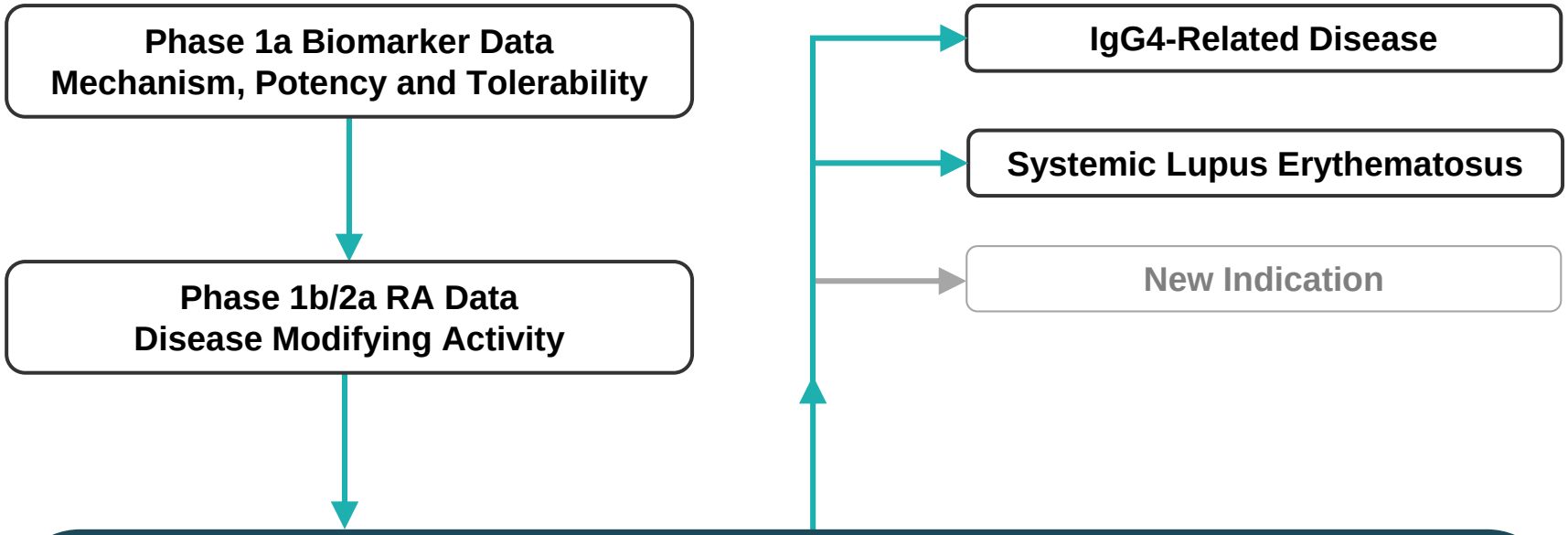
Reversible Biomarker Suppression Stimulated CD86 Expression



Reversible Decline in Peripheral B-cell Counts



Obexelimab B-cell Inhibition Profile Presents Opportunity Across Numerous Indications



Key criteria considered: competition, unmet need, cost/speed of development

Large Indications

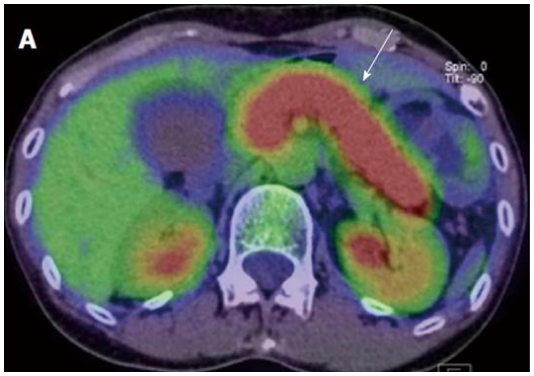
- Ankylosing spondylitis (AS)
- Scleroderma
- Moderate-severe systemic lupus erythematosus (SLE)
- Sjögren's syndrome
- Lupus nephritis
- Relapsing-remitting multiple sclerosis (RRMS)
- Rheumatoid arthritis
- Crohn's disease
- IBD

Small Indications

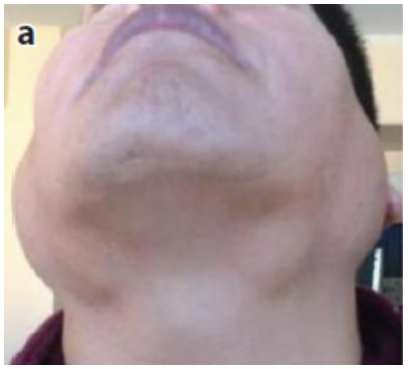
- Autoimmune hemolytic anemia
- Acquired Factor VIII inhibition
- Pemphigus
- Discoid lupus erythematosus (DLE)
- Waldenström's macroglobulinemia (WM)
- Desensitization for renal transplantation
- IgG4-Related Disease
- Idiopathic thrombocytopenic purpura (ITP)

IgG4-RD Fibro-inflammatory Activity Causes Progressive Organ Damage, with No Approved Therapies

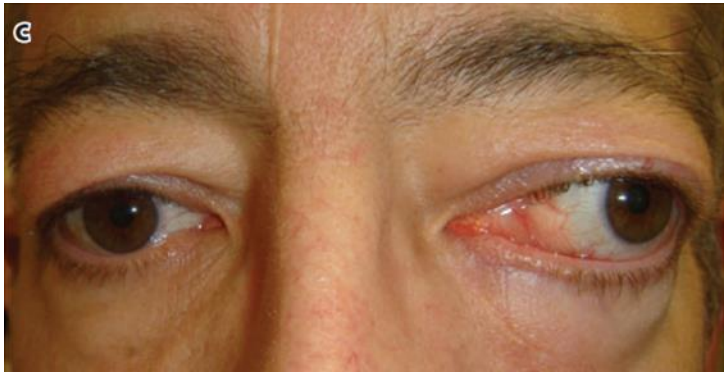
- **Multi-organ disease with a common histopathology**
  - Dense lymphoplasmacytic infiltrate
    - IgG4+ plasma cells
    - T cells
  - Storiform fibrosis
  - Obliterative phlebitis
  - More than one organ involved in majority
- **Patients present with tissue infiltration, damage and pseudo-tumors**
  - Pancreas: pancreatitis, pancreatic insufficiency, diabetes, pain
  - Eye: vision loss, proptosis
  - Biliary tree: cirrhosis, cholangitis, pain
  - Submandibular glands: difficulty swallowing, pain
- **Awareness growing; still underdiagnosed**
  - ~ 40,000 patients in the United States
- **No approved therapies; steroids are SOC**
- **IgG4-RD Responder Index (RI)**
  - Assessed in multi-specialty international validation study
  - RI found to be a valid measure of disease activity, regardless of the manifestation or specialist (Wallace Arthritis Care Res 2018)



PET/CT pancreatic swelling (arrow)



Submandibular swelling



Proptosis

Mahajan Annu Rev Pathol 2014

Murakami World J Clinical Oncol 2011

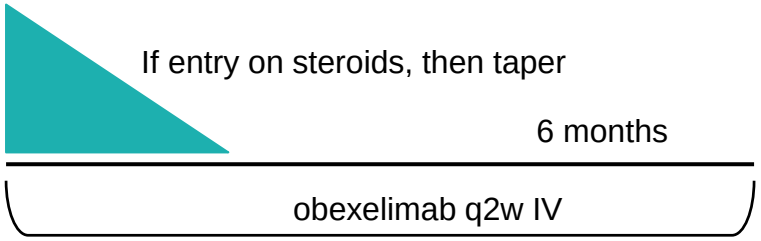
Xencor physician survey

Data from IgG4-RD Phase 2 Study Show Promising Activity

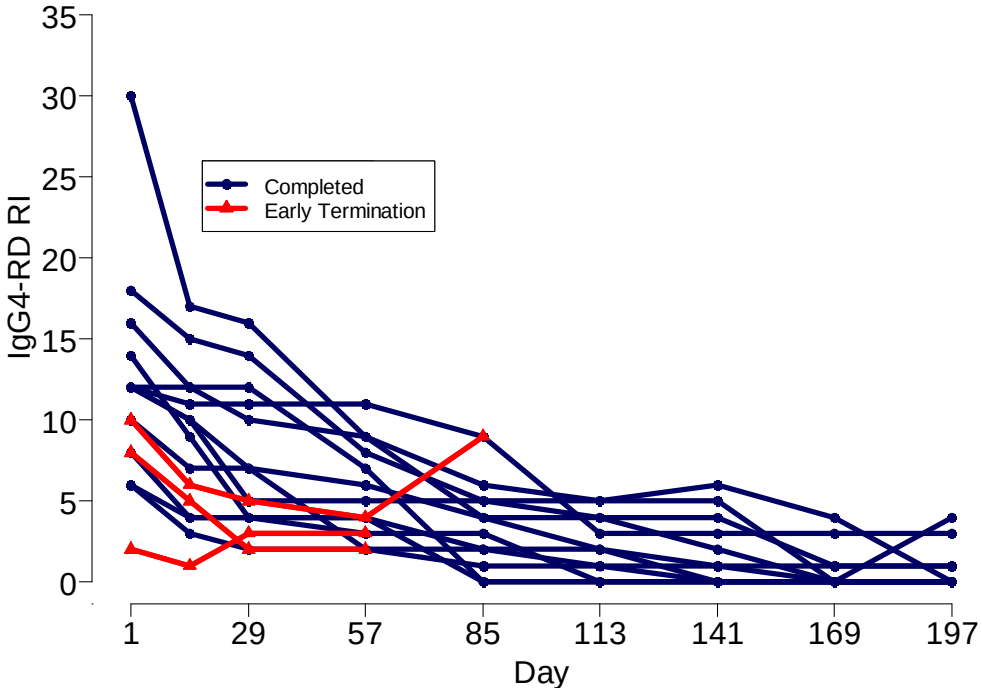
Obexelimab was well tolerated and showed promising activity in IgG4-RD

- Phase 2 primary objective: to evaluate the effect on the IgG4-RD Responder Index (RI) in patients with active IgG4-RD (proportion of patients with improvement in IgG4-RI at 6 mos
- Corticosteroids were tapered and discontinued in all five patients that were on corticosteroids at first obexelimab dose
- Most frequent AEs were GI infusion-related symptoms
- Plasmablasts decreased by about 70-80%, while B cells decreased by 40-55%, both within 2 weeks
- 14 of 15 patients achieved a decrease of ≥ 5 in the IgG4-RD RI. Initial response to therapy occurred quickly, most within two weeks of first dose
- 12 patients (80%) completed the study. All 12 achieved the primary endpoint of a decrease of IgG4-RD RI of ≥ 2 at Day 169
- Remission (IgG4-RD RI of 0 and no corticosteroids after month 2) was attained in 8 patients at Day 169; 4 others achieved an RI ≤ 4

Study Design

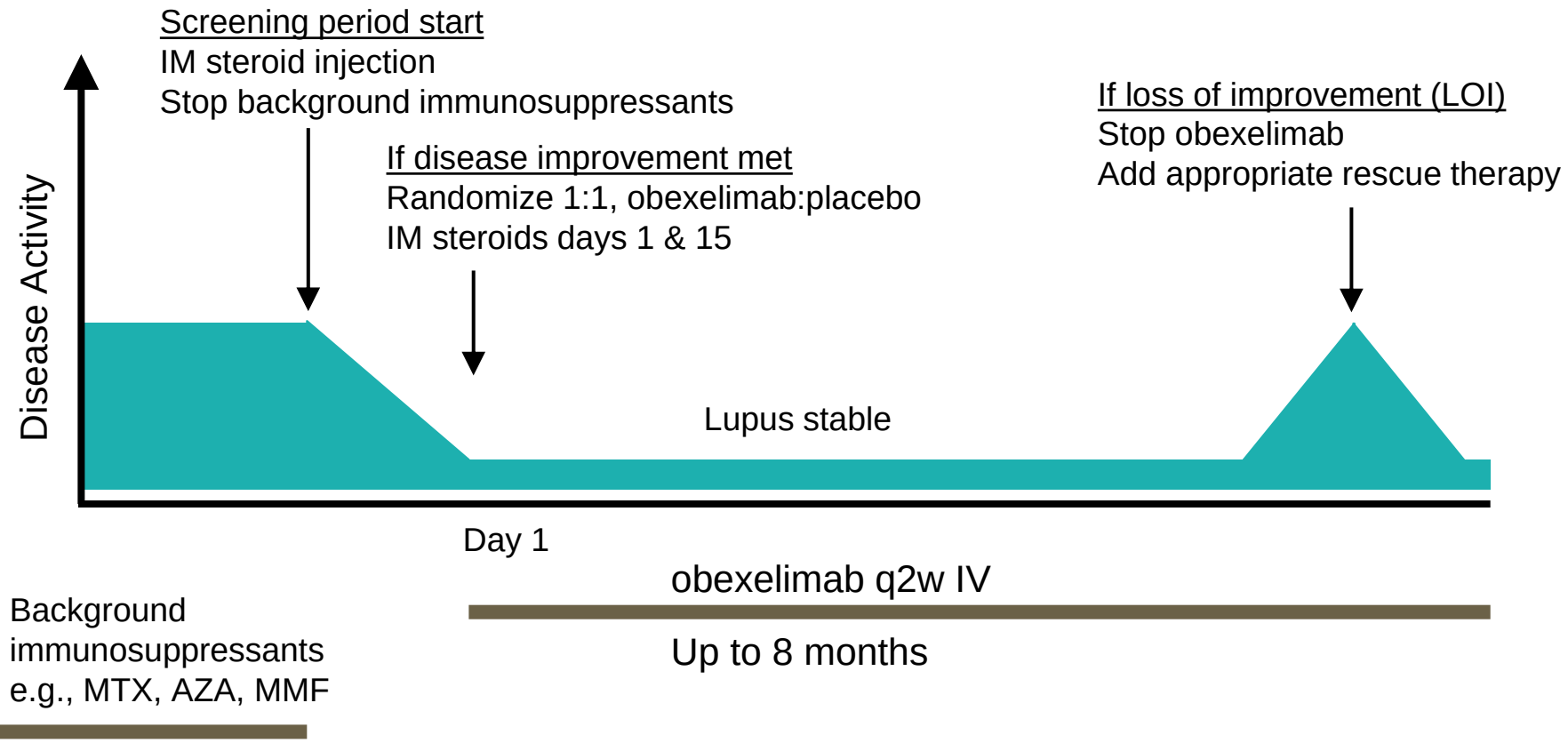


IgG4-RD Responder Index Over Time



ACR Meeting, November 2017

Obexelimab Lupus (SLE) Phase 2 Study Design



Primary objective: ability of obexelimab to maintain SLE disease activity improvement

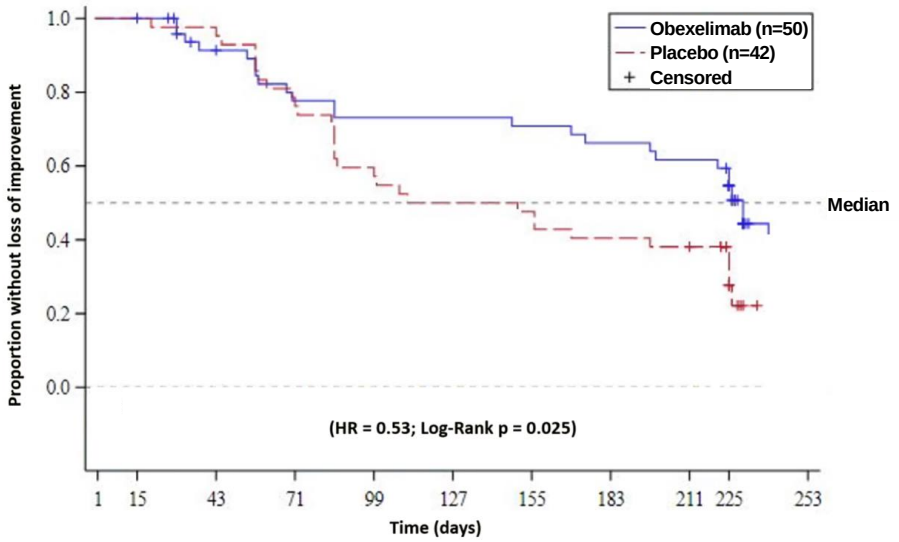
Randomized, double-blinded, placebo-controlled

N = 104 patients, 20 U.S. sites, topline data at ACR meeting in October 2018

Obexelimab Shows Disease Modifying Activity in Randomized Phase 2 Study in SLE

- Positive trend in primary endpoint, proportion of patients without loss of improvement (LOI) at Day 225, not statistically significant
  - LOI: SLEDAI increase ≥4 points or new BILAG A or B score **AND** physician intent to treat with rescue medication
- Met pre-defined secondary endpoint, time to LOI, 76% improvement in median time to LOI (p=0.025)
- Obexelimab well-tolerated and safety profile is consistent with prior studies
  - Most common AEs were transient, infusion-related
  - No opportunistic infections or deaths reported
  - Low incidence of major organ flares

Time to LOI in Efficacy Evaluable Population



	Efficacy Evaluable*		Intent-to-Treat	
	Obexelimab (n=50)	**Placebo** (n=42)	**Obexelimab** (n=52)	**Placebo** (n=52)
% Response (Day 225)	**42.0%**	**28.6%**	**40.4%**	**23.1%**
	p = 0.18		p = 0.06	
Median time to LOI (days)	**230**	**131**	**230**	**156**
	HR = 0.53, p = 0.025		HR = 0.59, p = 0.06	
Time on treatment (months, median)			**6.9** *[0-7.4]*	**3.6** *[0-7.0]*
Number of infusions (median)			**15** *[1-16]*	**8.5** *[1-16]*

* Excludes 12 patient discontinuations for reasons other than LOI or toxicity

2019/2020 Milestones and Goals

Trial Initiations / IND Submissions
✓ Initiate Phase 1 study of **XmAb23104** (PD-1 x ICOS) in advanced solid tumors
✓ Initiate Phase 1 study of **XmAb22841** (CTLA-4 x LAG-3) in advanced solid tumors
Support Genentech's IND for **XmAb24306** (IL15/IL15Rα-Fc targeting IL15Rβγ)

Initial Phase 1 Data Readouts
XmAb13676 (CD20 x CD3) in B cell malignancies (2H2019)
XmAb18087 (SSTR2 x CD3) in NET and GIST (1H2020)
XmAb20717 (PD-1 x CTLA-4) in multiple solid tumor types(1H2020)

$626.1 million in cash at June 30, 2019

Runway beyond 2024

xencor