

# Novartis Immunology Pipeline Event

October 30, 2025



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# Participants



**Shreeram Aradhye, MD**  
President, Development  
and Chief Medical Officer

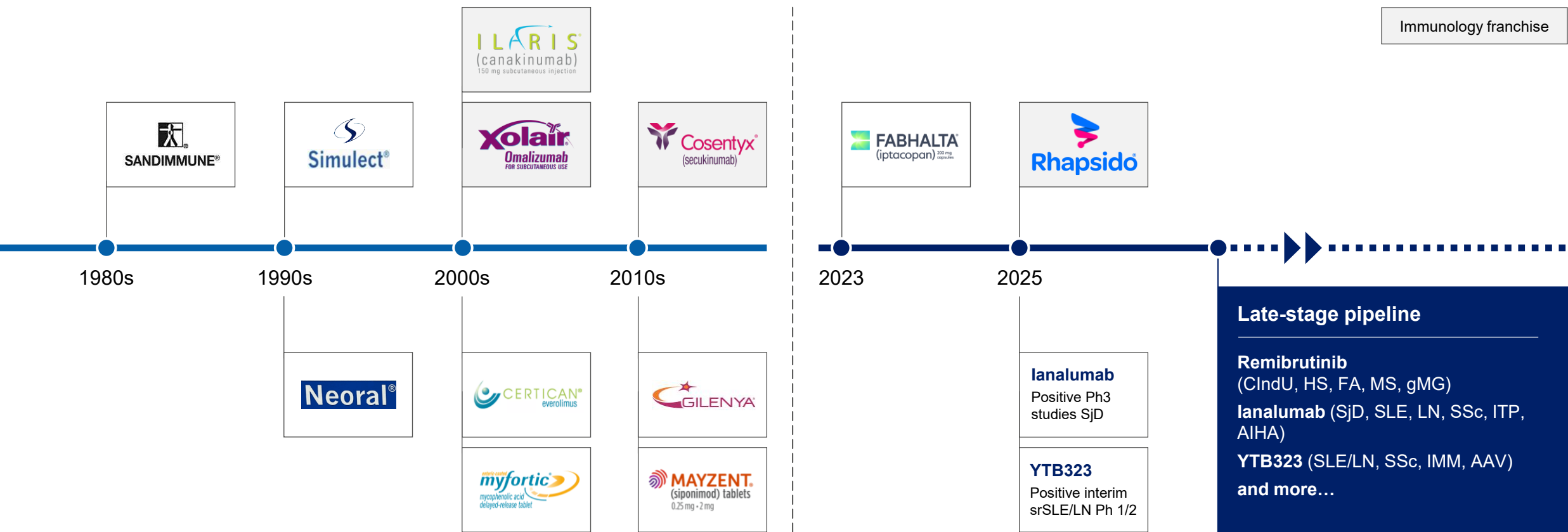


**Victor Bulto**  
President, US



**Angelika Jahreis, MD PhD**  
Global Head, Immunology  
Development Unit

# Novartis has a long legacy in immunology



Remibrutinib has only been approved in the US with expected ex-US approvals in 2026.

# Immunological conditions present a large and growing burden on patients and society<sup>1,2</sup>

Immunological  
conditions affect

**>10%**

of the global population<sup>3-4</sup>



## Daily life impact for patients<sup>9-11</sup>

- Chronic, painful and progressive nature of immunological conditions places significant physical and psychological burden on patients<sup>10-12</sup>
- Impact is often underestimated, leading to delays in diagnoses<sup>12-16</sup>

## Major financial and socioeconomic burden

- Autoimmune diseases alone drive >USD 100bn in annual US healthcare costs<sup>17-18</sup>

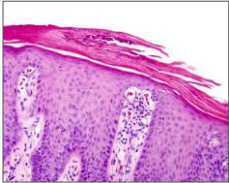
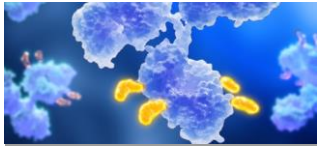
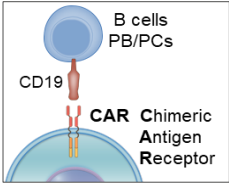

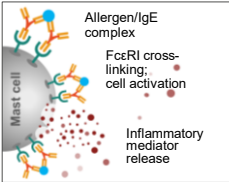
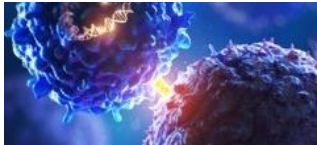
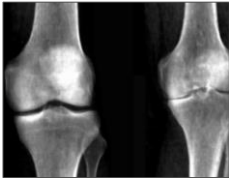
## Rising demand for innovation

- Treatments considered effective today often only work for a subset of patients, even among those who exhibit similar symptoms<sup>5</sup>
- Availability of new therapies expected to drive >10% global annual market growth<sup>6-8</sup>

See page 51 for references (footnotes 1-18).







# Within immunology, we are building a deep portfolio around selected core disease areas

Core areas	Indications	Enabled by classic and new modalities	
<b>Immuno-Dermatology</b> 	PsO, HS, CSU, CIndU, AtD T-cell driven skin diseases	 Biologics	mAbs
			Bi/Trispecifics
<b>Systemic autoimmunity</b> 	SjD, SLE, LN, SSc, IIM, AAV, RA	 Orals	LMW monotherapies
			Combination therapies
<b>Allergies</b> 	CSU, CIndU, Food Allergy	 Novel modalities	Peptides
			CAR-T
<b>Arthritides</b> 	Spondylitis/Spondyloarthritis Osteoarthritis		

# Complementing internal innovation with external assets to deliver on our immunology ambitions

Recent deals to expand into new and high value target spaces

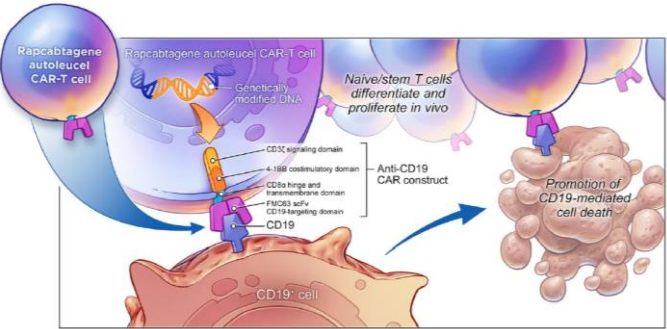
			
<b>anti-IL15 mAb</b>	<b>STING antagonist</b>	<b>VAV1 degrader</b>	<b>MRGPRX2 inhibitor</b>
<b>GIA632:</b> Anti-IL-15 for CD8 T-cell-driven skin diseases, including AtD (PhII FPFV 2025)	<b>IFM-32531:</b> Brain penetrant covalent STING inhibitor with FiC potential (PhI)	<b>MRT-6160:</b> Highly specific and potent non-canonical CRBN-based molecular glue degrader (PhI)	<b>KRP-M223:</b> Potent and specific MRGPRX2 inhibitor blocking non-IgE mediated mast-cell degranulation

# Advancing “pipeline-in-a-pill” products across modalities

## YTB323

**CAR-T therapy** for deep B cell depletion

**Lead indication:** srSLE/LN



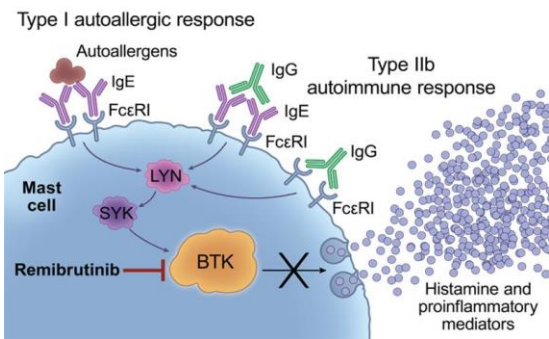
**LCM**

SSc, IIM, AAV, RA, SjD, rMS, pMS, gMG

## Rhapsido

**Small molecule**, selective BTK inhibitor

**Lead indication:** CSU



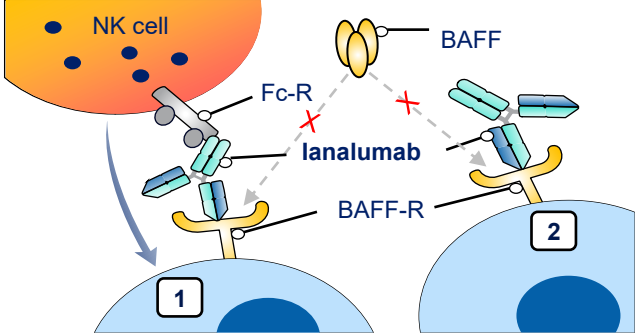
**LCM**

CIndU, HS, FA, MS, gMG

## Ianalumab

**mAb**, dual MOA for enhanced B cell targeting

**Lead indication:** SjD



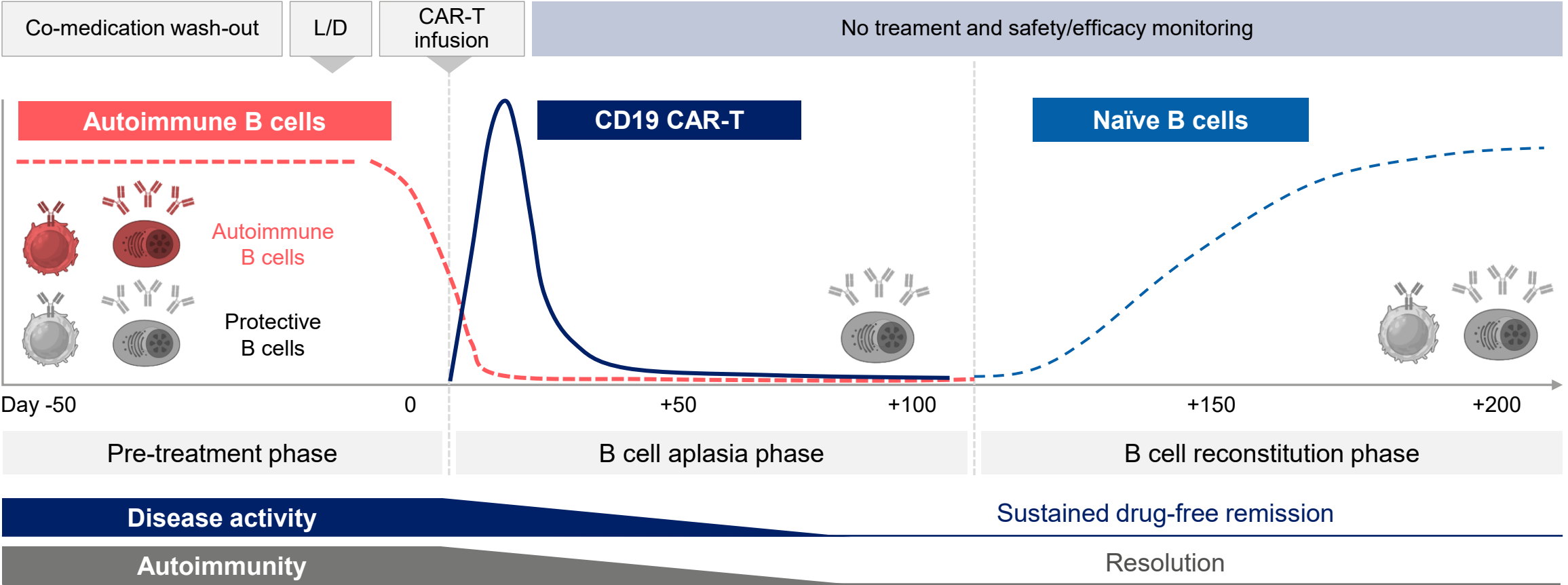
**LCM**

SLE, LN, SSc, ITP, wAIHA

Investing in broad development programs with high conviction and alignment across RDC continuum



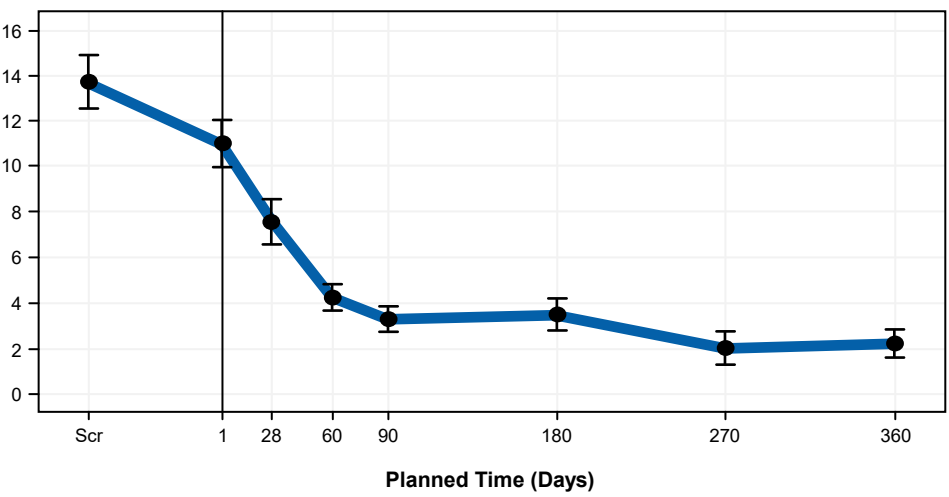
# Effective depletion of the B cell compartment via CD19 CAR-T therapy may reset pathologic autoimmunity



Adapted from Schett G et al Lancet 2023.

# Positive Ph1/2 study<sup>1</sup> with YTB323<sup>2</sup> in SLE prompted four pivotal trials across autoimmune diseases, with first readout expected ≥2027

SLEDAI-2K total score over time, mean (SE)<sup>3</sup>



Early and sustained improvement of overall disease activity in patients with srSLE (n=21) with up to 12 months follow-up

Safety in line with CAR-T therapy experience

Selected projects	Pre-clinical	Phase I/II	Phase II	Phase III
srSLE/LN <sup>4</sup>				
srSLE/LN <sup>4, 5</sup>				
SSc <sup>5</sup>				
IIM <sup>5</sup>				
AAV <sup>5</sup>				
RA/SjD <sup>4</sup>				
rMS				
pMS				
gMG				

Disease area: Rheumatology Neuroscience

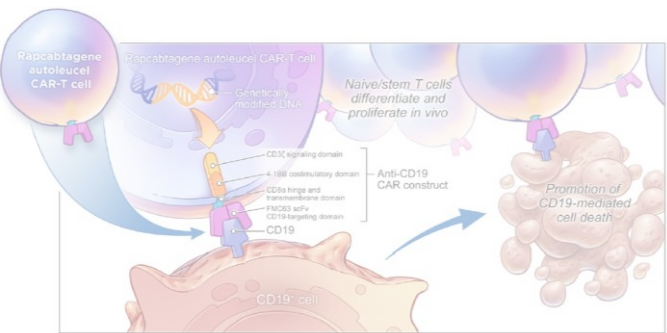
See page 52 for references (footnotes 1-5).

# With Rhapsido® FDA approval and ianalumab positive data in SjD, we have derisked two assets with multi-blockbuster potential

## YTB323

CAR-T therapy for deep B cell depletion

Lead indication: srSLE/LN



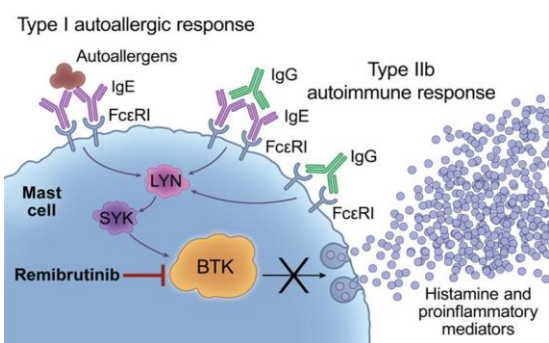
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Lead indication: CSU



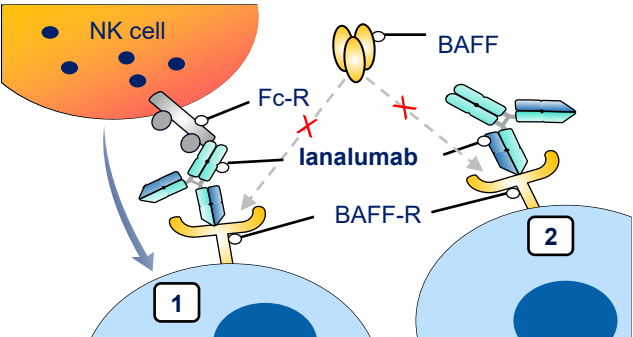
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## ianalumab

mAb, dual MOA for enhanced B cell targeting

Lead indication: SjD



LCM

SLE, LN, SSc, ITP, wAIHA

Investing in broad development programs with high conviction and alignment across RDC continuum

# Rhapsido® approved by FDA as the only oral, targeted BTK inhibitor for CSU with a clean label<sup>1</sup>



## Broad indication<sup>1</sup>

Indicated for the treatment of chronic spontaneous urticaria (CSU) in adult patients who remain symptomatic despite H1 antihistamine treatment

## Clean safety<sup>1</sup>

- ✓ **NO boxed warning**
- ✓ **NO contraindications**
- ✓ **NO required routine lab monitoring**

## Oral administration<sup>1</sup>

25mg tablet twice daily, with or without food

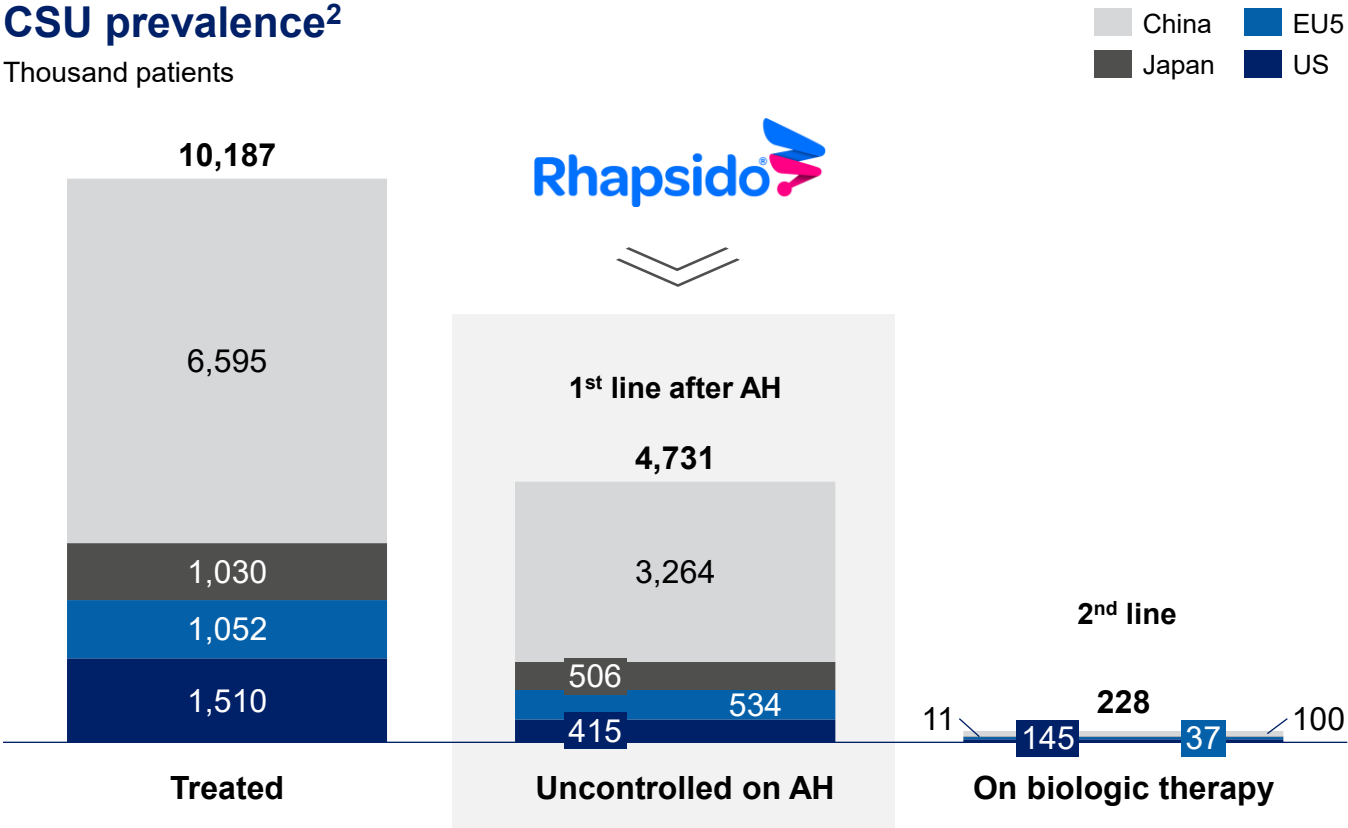
**Ex-US: EU, CN and JP submissions completed**

See page 52 for references (footnote 1).

# Positioned to address a long-standing treatment gap after antihistamine failure and before biologics; CSU market opportunity 1/2 the size of PsO<sup>1</sup>

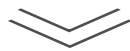
## CSU prevalence<sup>2</sup>

Thousand patients



## CSU patient experience

- Systemic debilitating mast cell-driven autoimmune disease, characterized by red, swollen and itchy hives<sup>3</sup>
- 60% CSU patients experience mental health disorders, mainly depression and anxiety<sup>4</sup>
- QoL impairment comparable to PsO<sup>5</sup> and AD<sup>5</sup>; disrupted sleep reported as one the most burdensome impacts<sup>6</sup>
- ~1/5 patients report having to take time away from work<sup>7</sup>



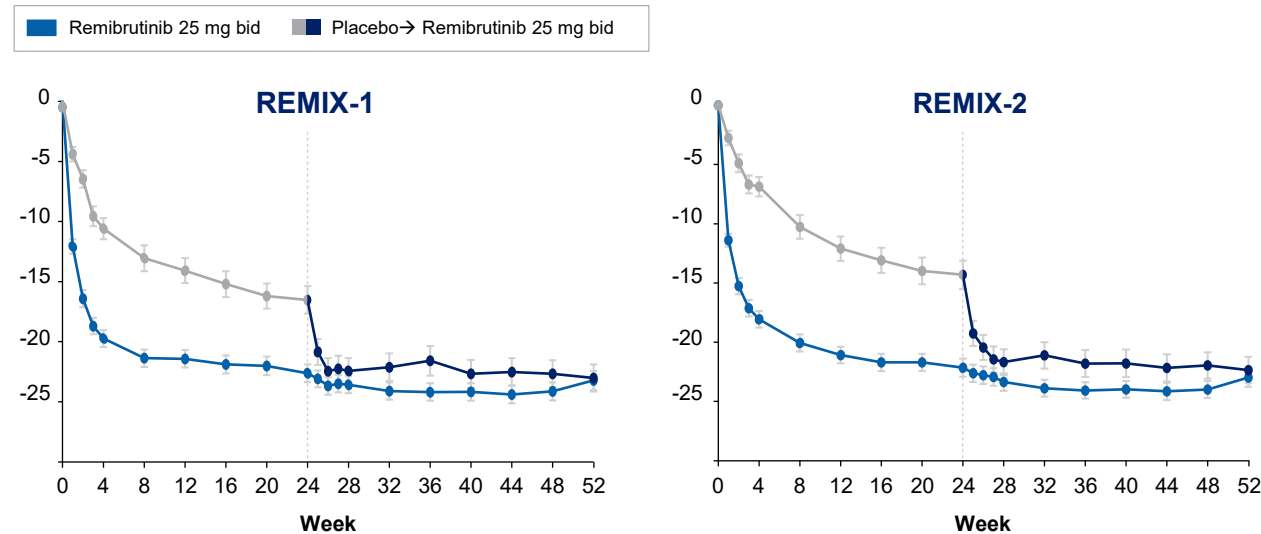
Achieving symptom control as quickly as possible to improve QoL is an important treatment goal for CSU

See page 52 for references (footnotes 1-7). Treated refers to adults with antihistamines and biologics. Uncontrolled despite treatment with H1, H2 antihistamines incl. dose escalation, with treatment at the specialist level. Excludes patients with rare blood disorders, patients taking anticoagulants due to bleeding risk, and other co-morbidities.

# Rhapsido<sup>®</sup> has demonstrated long-term safety and efficacy in CSU, with a fast onset of action

## Phase III REMIX studies<sup>1,2</sup>

Change from baseline in UAS7 (mean  $\pm$  SE)



- Meaningful improvement in **symptom control across all measures**<sup>3</sup>, with **results observed as early as Week 1** in post-hoc analyses
- **Favorable safety profile**<sup>4</sup> including balanced LFTs

See page 52 for references (footnotes 1-4).

## What we've heard

"Remibrutinib represents a **new way of treating CSU**. By blocking the activity of BTK, remibrutinib stops a key pathway of the immune response in CSU. This is an exciting new option that has the **potential to help a broad range of patients get fast relief.**"

*Dr. Mark Lebwohl, MD (Dermatologist)*

"The approval of remibrutinib is an **important development in CSU care**. It **quickly reduces symptoms**, offering patients **control of the hives and itching that they experience** on a daily basis."

*Dr. Giselle Mosnaim, MD, MS (Allergist)*



# Phase IIIb US HTH study vs. dupilumab evaluating speed of symptom control, of critical importance to patients

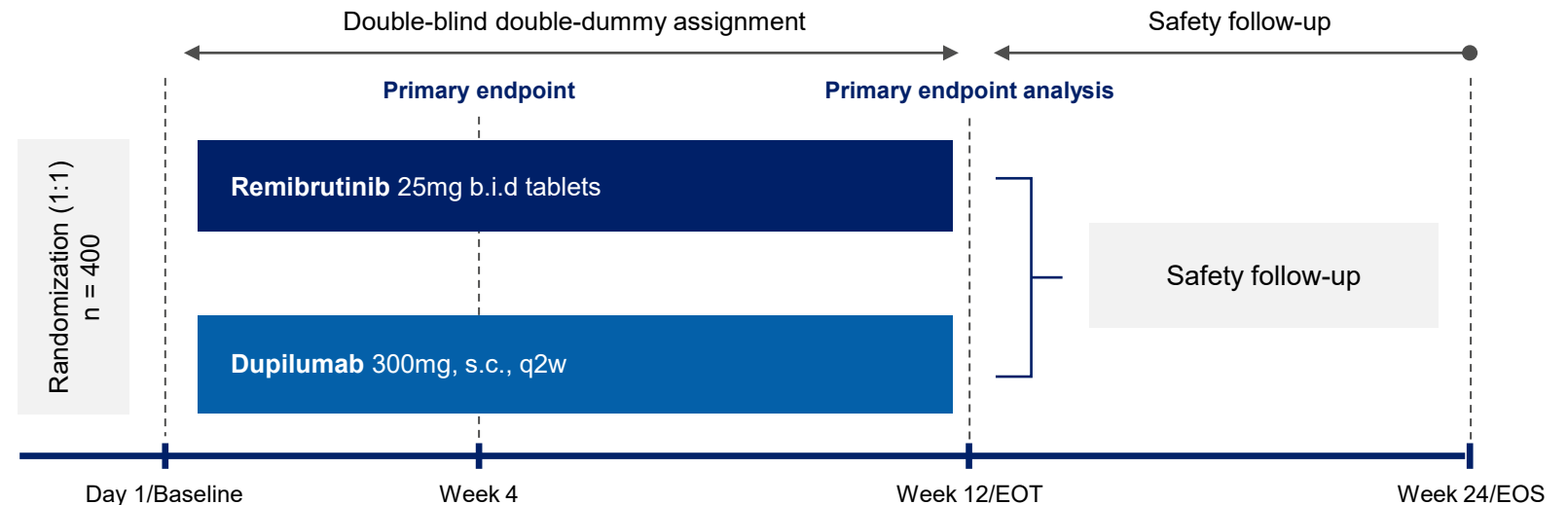
## Objective

- Assess the **superiority of Rhapsido vs. dupilumab in CSU** inadequately controlled by H1-antihistamines (AH)
- Primary endpoint: **UAS7** change from baseline at **Week 4**

## Status

- Multi-site, US-based study
- Currently recruiting

## RECLAIM study design



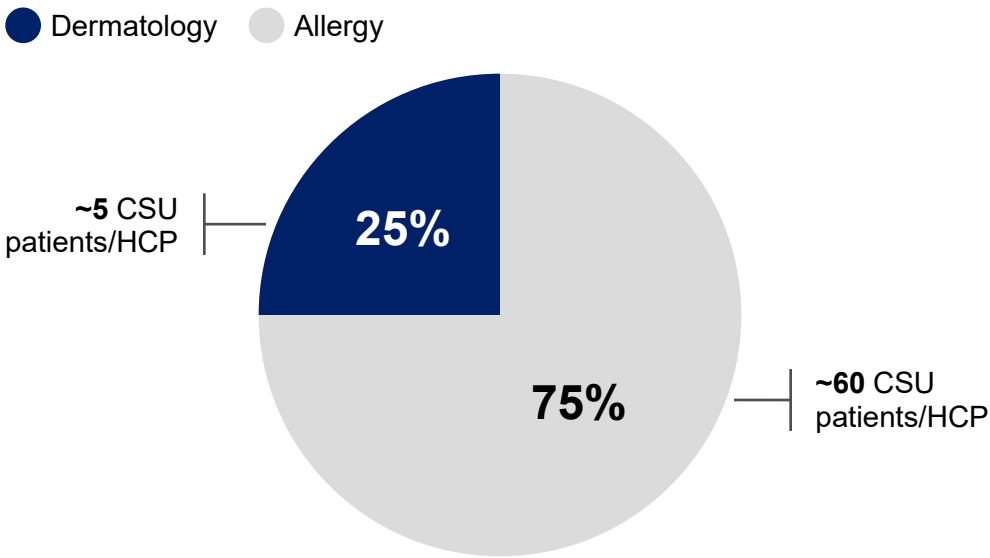
**Population:** Adult CSU patients inadequately controlled by 2nd gen. H1-AHs

**Background:** 2nd gen. H1-AHs allowed as background and rescue therapy

**Next steps:** Readout expected in 2027

# For the US launch, we expect initial uptake from Allergists, followed by Dermatologists – both specialties we know well

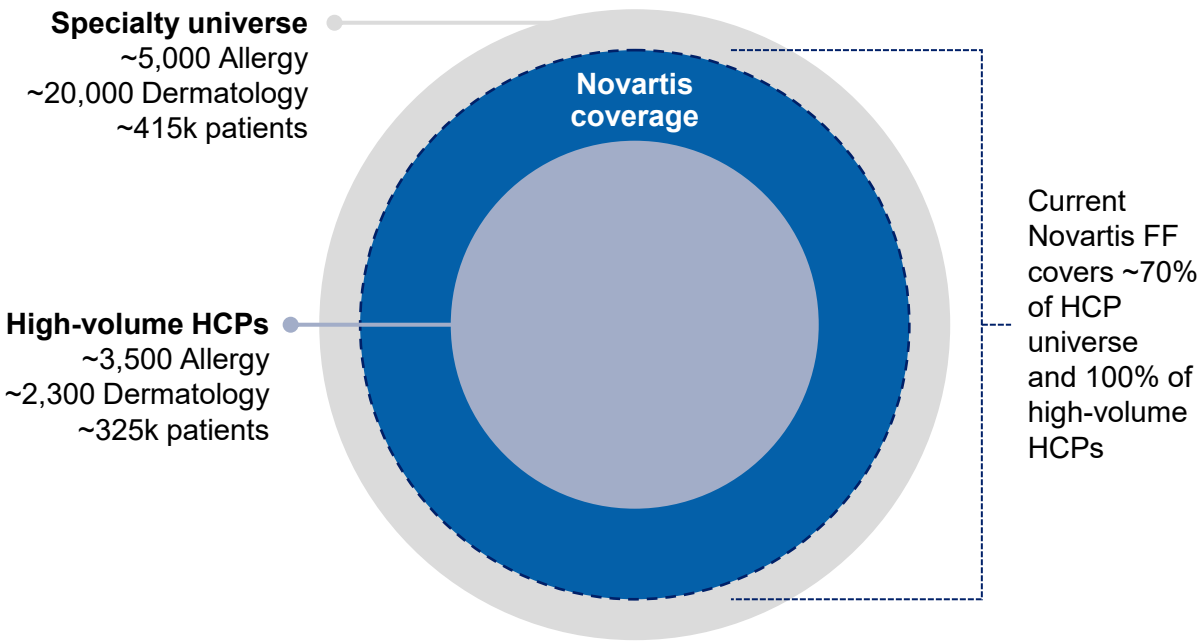
## Split of target CSU patients by specialty<sup>1</sup>



We expect **Rhapsido** to evolve the specialist landscape, bringing more CSU care into dermatology over time.

See page 53 for references (footnote 1).

## Deploying our field force in CSU<sup>1</sup>



# Early US launch success factors

1

## Engage early prescribers

Target **high-prescribing allergists and dermatologists** who treat ~80%<sup>1</sup> of CSU patients after AH failure



2

## Prioritize Rhapsido-ready patients

Focus on ~415k CSU patients **uncontrolled on antihistamines**<sup>1</sup> driving **early positive experiences**  
**~20k patients identified**<sup>2</sup> and activated in pre-launch activities



3

## Support patient access

Provide a simplified experience with **robust bridge program, sampling**, and rapid coverage expansion



**Expect fast uptake once access is established, positioning Rhapsido as the 1L treatment option after AH failure**

See page 53 for references (footnotes 1-2).

# Leveraging commercial capabilities honed over the last 3 years

1

## Customer engagement

Transformed field model, improving customer engagement effectiveness across the portfolio by **+20% for three consecutive years<sup>1</sup>**



2

## Patient support

Developed **industry-leading bridge support** to accelerate onboarding

Fully owned Patient Support Program model, resulting in **3-5 days to dispense** on average<sup>2</sup>



3

## Market access

Secured **>70% access to label within 6 months** for recent launches<sup>3</sup>

**~30 days** average<sup>4</sup> conversion from free to paid drug



**Compounding capabilities through multiple launches across therapeutic areas**

See page 53 for references (footnotes 1-4).

# Rhapsido® CSU launch provides foundation for future indication expansion

Indication	Phase I	Phase II	Phase III	Status
CSU				Launched in US
CIndU				Readout 2026
HS				Readout 2028
FA				PhII positive, PhIII preparation
MS				Readout 2026
gMG				Readout 2028

Disease area: Immunology Neuroscience

## Future launches leverage existing infrastructure and capabilities

**CIndU**  
Complete overlap with CSU

**HS**  
Complete overlap Cosentyx HS

**FA**  
Builds on CSU Allergy footprint

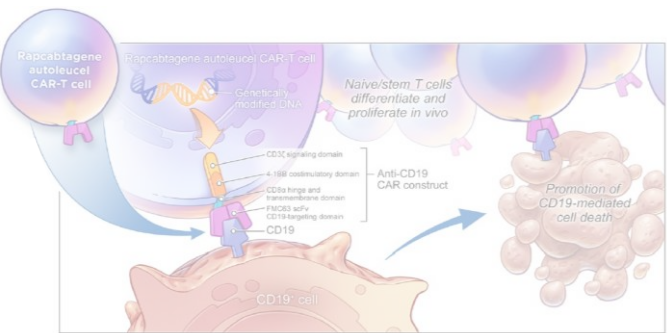
**MS & gMG**  
Builds on Neuroscience footprint

# With Rhapsido® approval and ianalumab positive data in SjD, we have derisked two assets with multi-blockbuster potential

## YTB323

CAR-T therapy for deep B cell depletion

Lead indication: srSLE/LN



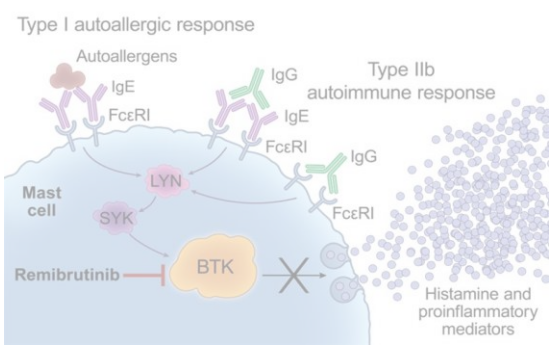
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## Rhapsido

Small molecule, selective BTK inhibitor

Lead indication: CSU



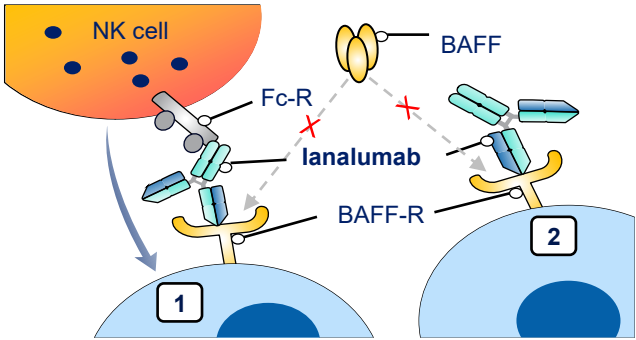
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## ianalumab

mAb, dual MOA for enhanced B cell targeting

Lead indication: SjD



LCM

SLE, LN, SSc, ITP, wAIHA

Investing in broad development programs with high conviction and alignment across RDC continuum



# Sjögren's is a severe, systemic, and complex autoimmune disease – far beyond dryness

## Heterogenous B cell mediated disease

Debilitating eye and mouth dryness, fatigue and joint pain<sup>1</sup>

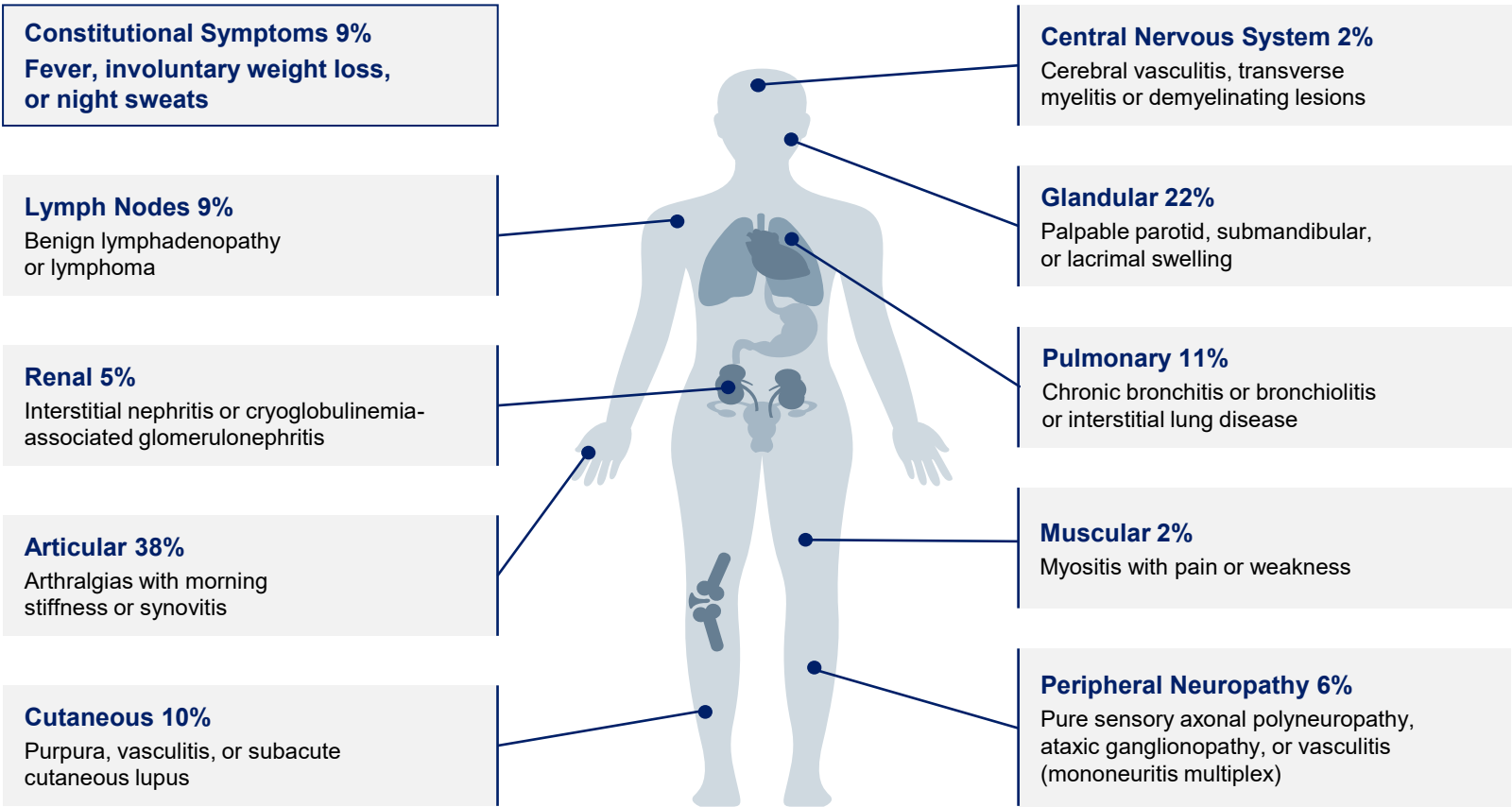
30-40% suffer potentially irreversible organ and system damage<sup>1</sup>

Reduced quality of life metrics comparable to RA or SLE<sup>1</sup>

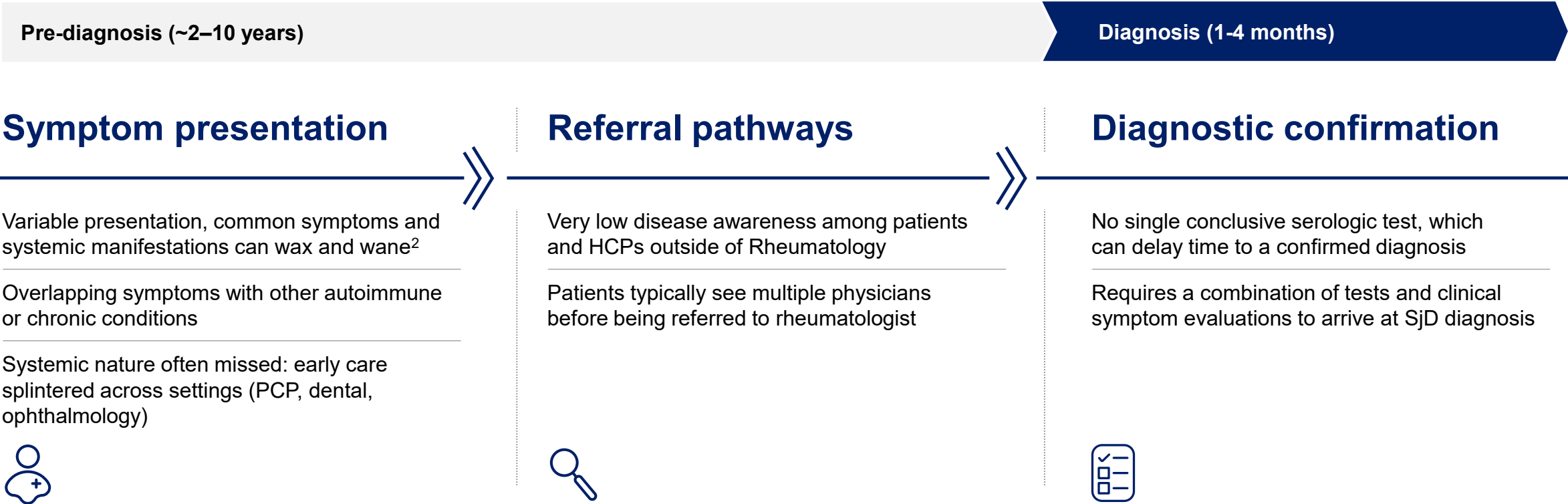
Increased mortality including a 20-40x lifetime risk of lymphoma<sup>2</sup>

See page 53 for references (footnotes 1-2).

## Percentage of patients with organ manifestations<sup>1</sup>



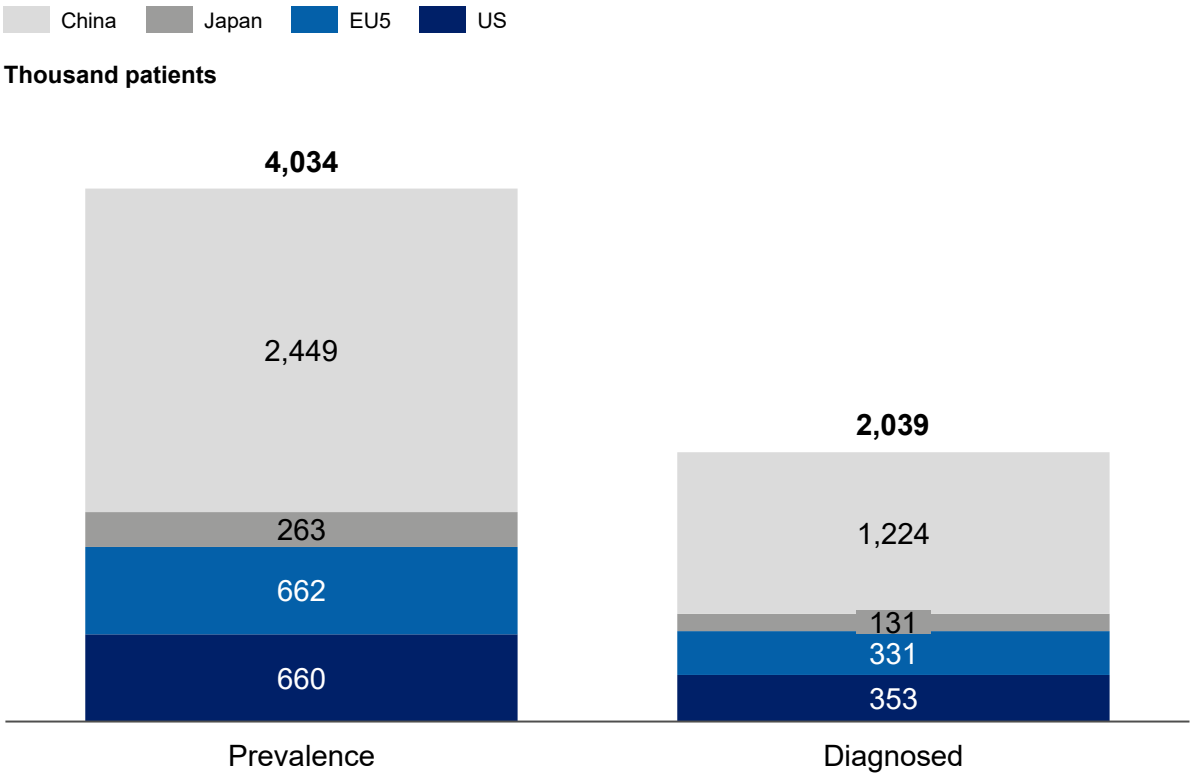
# A lengthy, multi-physician path is common before reaching a SjD diagnosis<sup>1</sup>



See page 53 for references (footnotes 1-2).

# SjD is the second largest Rheumatology market after RA, and represents significant unmet need

## Epidemiology<sup>1</sup>



## Demographics<sup>2</sup>



90% of people with SjD are women

Typically diagnosed between 30-50 years

## Current treatment options<sup>3</sup>



Fail to address the wide range of symptoms

Reliance on off-label therapies for systemic disease

## Increasing diagnoses



Prevalence likely underestimated due to diagnostic complexity and overlap with other AID<sup>4</sup>

Diagnosed population expected to grow with approval of targeted therapy

See page 54 for references (footnotes 1-4). Prevalence assumes primary Sjogrens patients only. Source: Kantar Health, DRG, Evaluate Pharma, US demand study, Novartis. Data for year 2025. Epidemiology numbers include patients without access.

# ESSDAI is the gold standard to assess disease activity in SjD trials

## Composition and application in patient care<sup>1</sup>

**12 organ-specific domains** used to stratify disease activity

**Scoring system** with low disease activity <5, moderate 5-13, high ≥14

**<40% of Rheumatologists** have ever utilized ESSDAI in clinical practice<sup>2</sup>

## Utilization in clinical trials<sup>3</sup>

Validated endpoint and enrollment criterion in pivotal trials

Used alongside complementary instruments to capture full disease impact:

- PROs (fatigue, dryness, pain),
- global assessments (patient and physician) and
- clinical tests (gland function assessments and serological test)

	Domain (score)	Weighting
<b>Clinical Domains</b>	Constitutional (0-2)	<b>3</b>
	Lymphadenopathy (0-3)	<b>4</b>
	Glandular (0-2)	<b>2</b>
	Articular (0-3)	<b>2</b>
	Cutaneous (0-3)	<b>3</b>
	Pulmonary (0-3)	<b>5</b>
	Renal (0-3)	<b>5</b>
	Muscular (0-3)	<b>6</b>
	Peripheral nervous system (0-3)	<b>5</b>
	Central nervous system (0-3)	<b>5</b>
<b>Laboratory Domains</b>	Hematological (0-3)	<b>2</b>
	Biological (0-2)	<b>1</b>
<b>Score Total</b>		<b>0-123</b>

See page 54 for references (footnotes 1-3).

# Systemic disease activity as measured by ESSDAI is related to long-term outcomes and decreased mortality

## Higher ESSDAI scores

- Increased risk of damage accrual<sup>1</sup> and adverse outcomes including development of lymphoma<sup>2</sup>, interstitial lung disease or CV events<sup>3</sup>
- Linked to poorer quality of life, reduced work productivity, and greater socioeconomic burden<sup>4</sup>

## Lower ESSDAI scores

- Sustained ESSDAI reduction associated with preservation of glandular function over time<sup>5</sup>
- Low disease activity in related AIDs (RA and SLE) are well established as improving long-term outcomes and mortality<sup>6,7</sup>

Consistent, clinically relevant and durable reductions in disease activity have the potential to prevent progression of both local and systemic complications



See page 54 for references (footnotes 1-7).

# Ianalumab is an afucosylated, fully human, IgG1 mAb targeting B cells through a novel dual mechanism of action

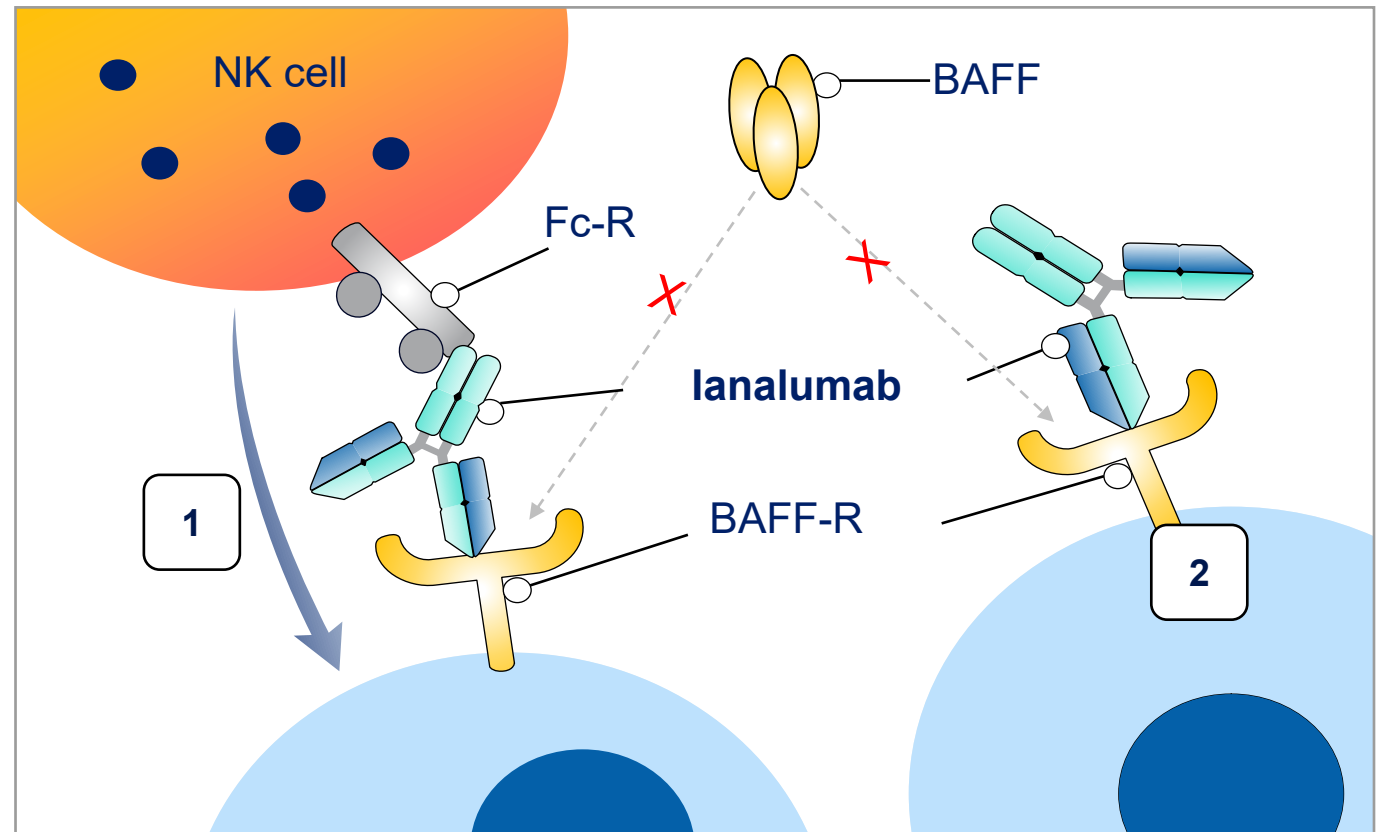
## Dual MoA binding to BAFF-R<sup>1</sup>

01 | Enhanced depletion of B cells via ADCC

02 | Inhibition of B cell activation and survival via BAFF-R blockade<sup>2,3</sup>

## Relevance in SjD

B cell hyperactivity and dysregulated BAFF/BAFF-R signaling are hallmarks of SjD pathogenesis<sup>2-4</sup>



See page 55 for references (footnotes 1-4).



# Ianalumab achieves deep B-cell depletion in target tissue

## Phase II mechanistic study<sup>1</sup>

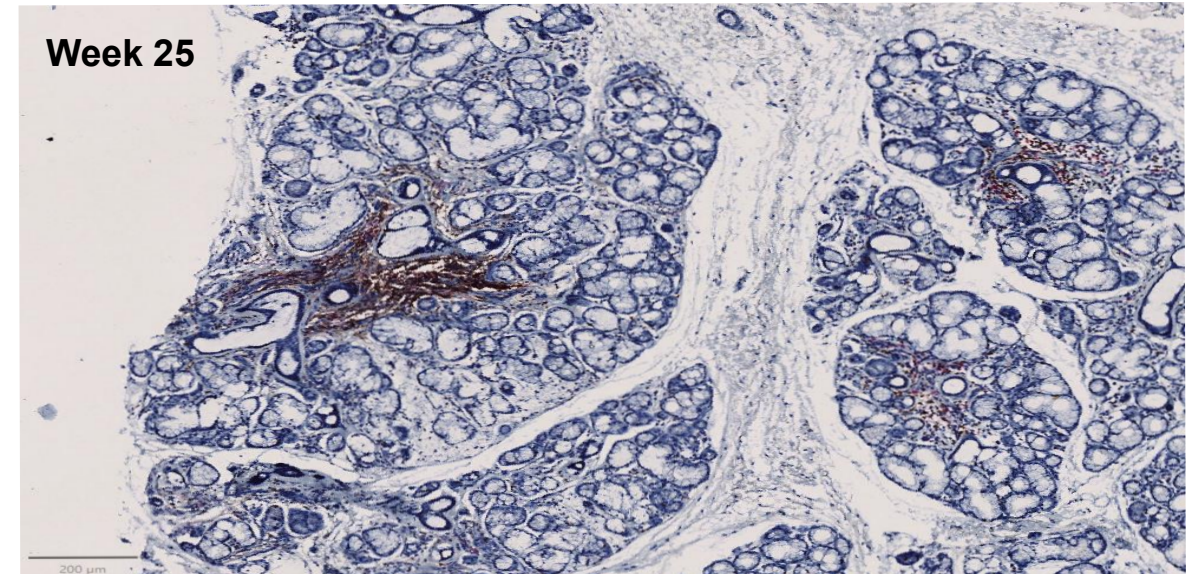
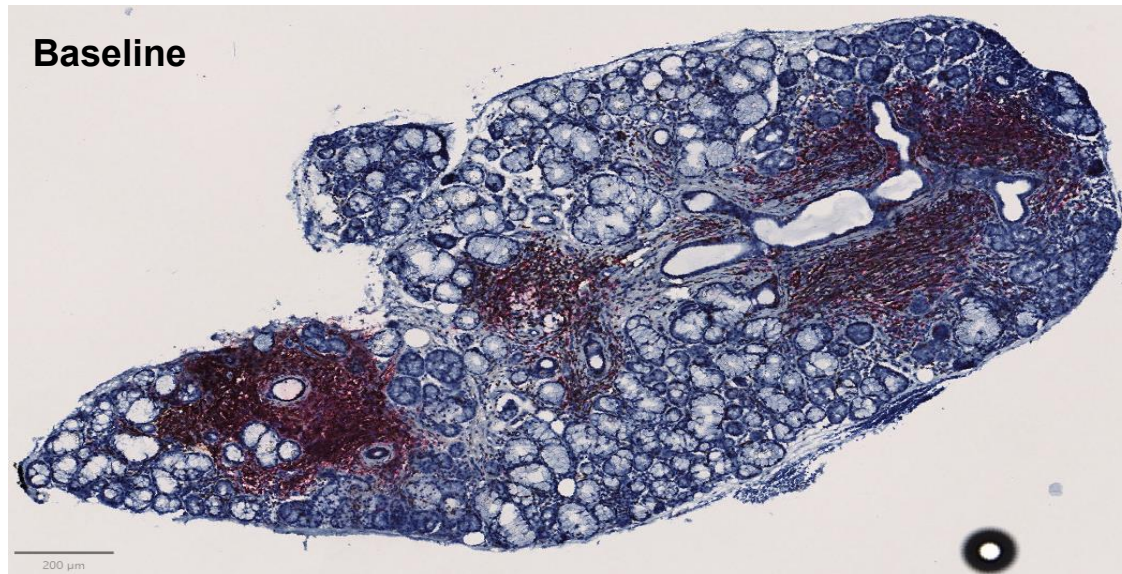
Ianalumab QM reduces lymphocytic infiltrate in salivary gland tissue at Week 25

99% reduction in circulating B cells

84% reduction in salivary gland B cell density

## Analysis of labial salivary gland biopsy

CD3 / CD20



See page 55 for references (footnote 1).

# Phase III NEPTUNUS-1 and NEPTUNUS-2 study designs<sup>1</sup>

## Primary endpoint

- ESSDAI change from baseline at Week 48, iganalumab vs. placebo

## Key secondary endpoints

- ESSDAI response ( $\geq 5$  point reduction from baseline)
- ESSDAI low systemic disease activity (ESSDAI score  $< 5$ )
- Physican (PhGA) and patient reported outcomes (PaGA, ESSPRI, SSSD), stimulated salivary flow (sSF)
- Safety and tolerability up to Week 52

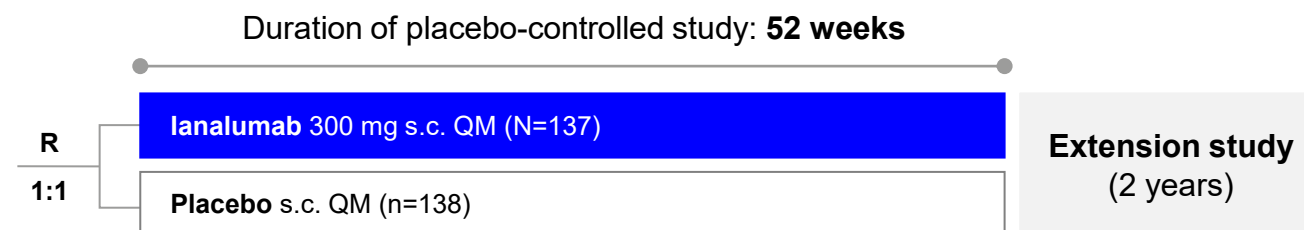
## Pooled analysis

- Iganalumab QM data was pooled in a pre-specified statistical analysis plan

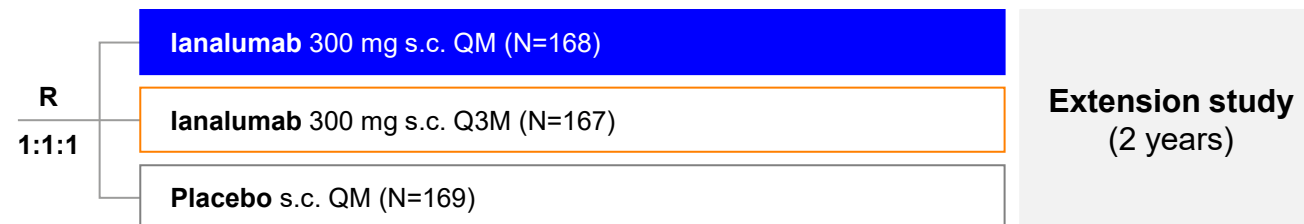
## Baseline characteristics

- Generally balanced between treatment groups

## NEPTUNUS 1 study design



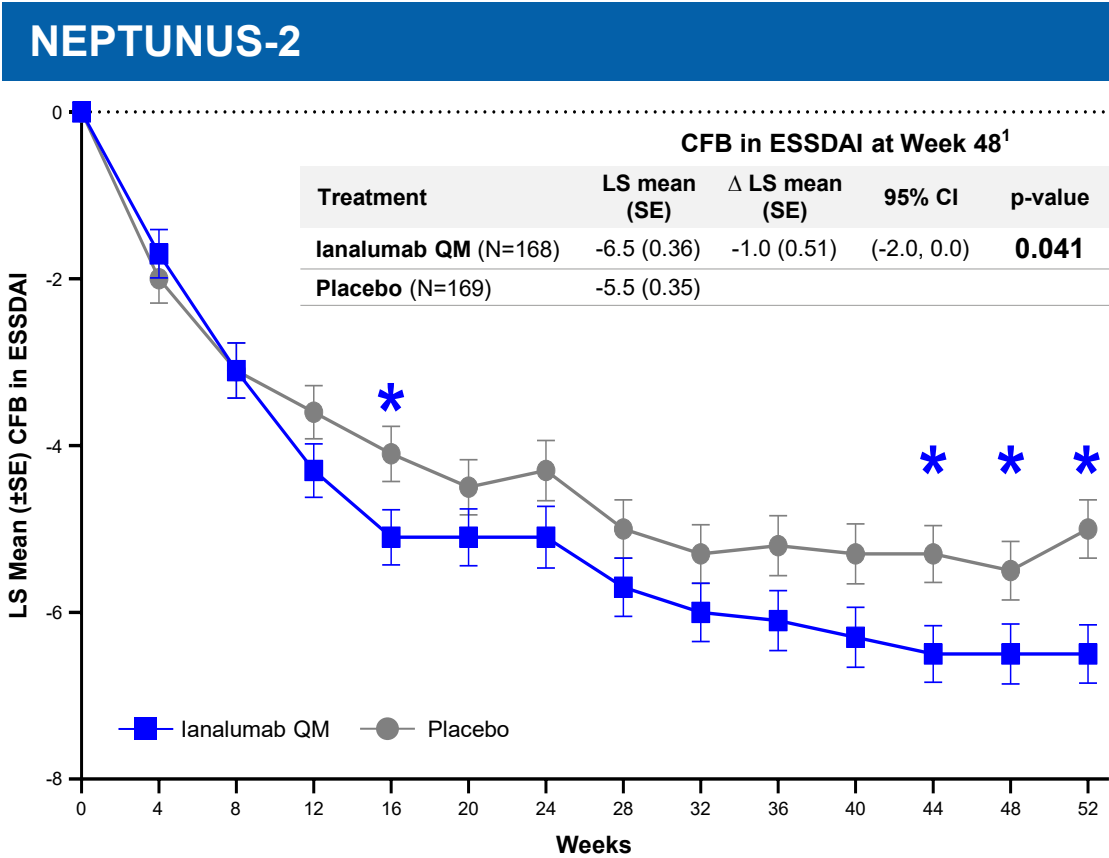
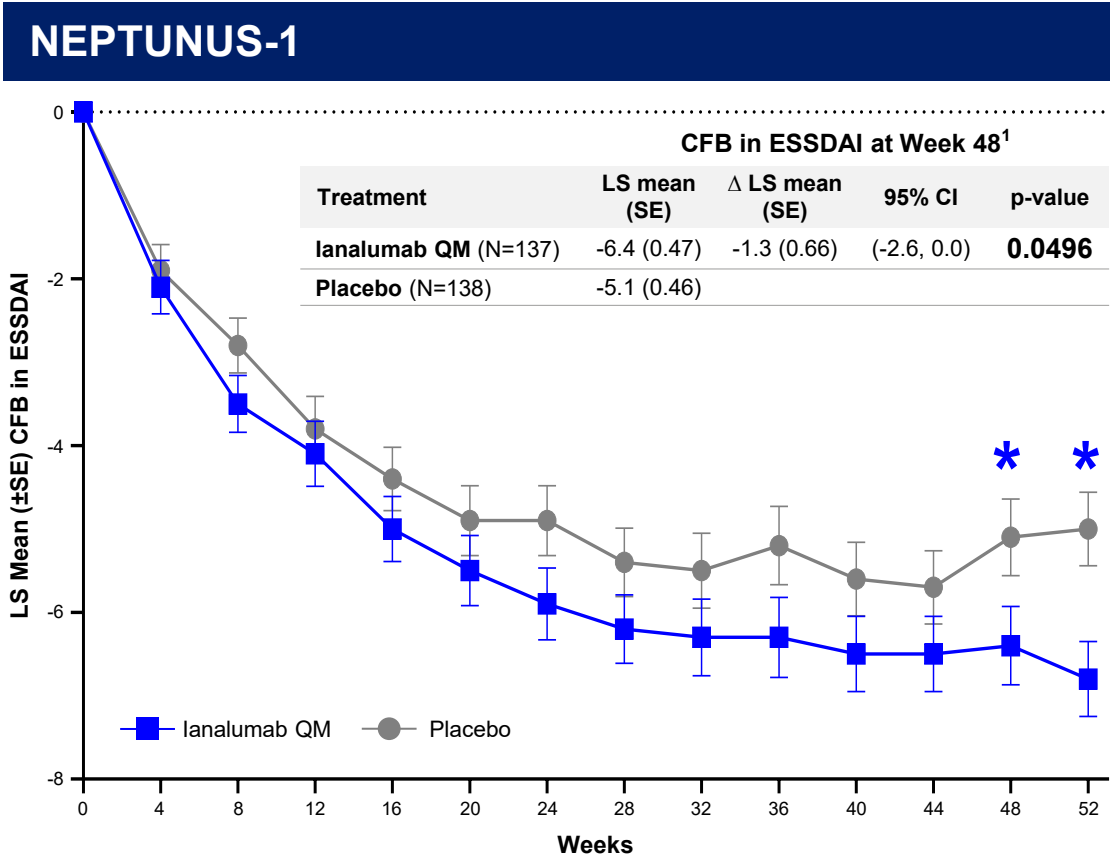
## NEPTUNUS 2 study design



**Patient population:** Adult SjD patients with moderate to high disease activity (ESSDAI  $\geq 5$ ). All arms could continue concomitant background therapy at investigator's discretion.

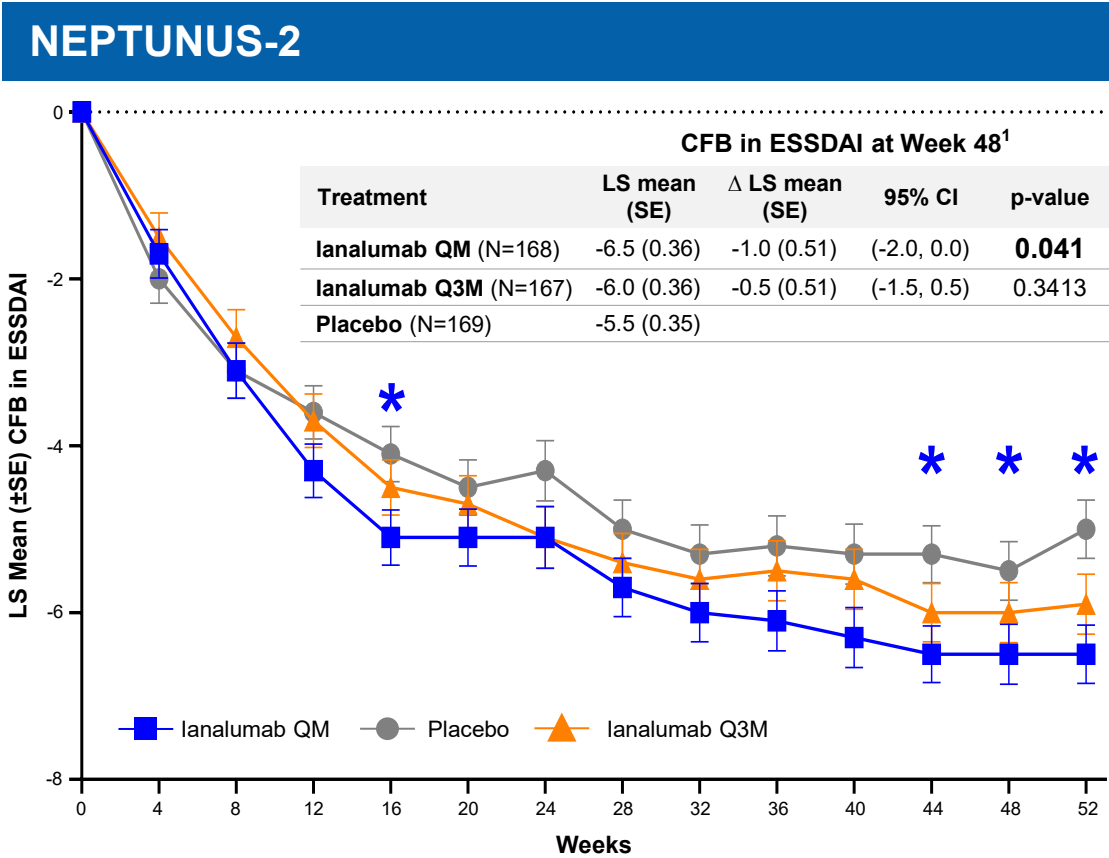
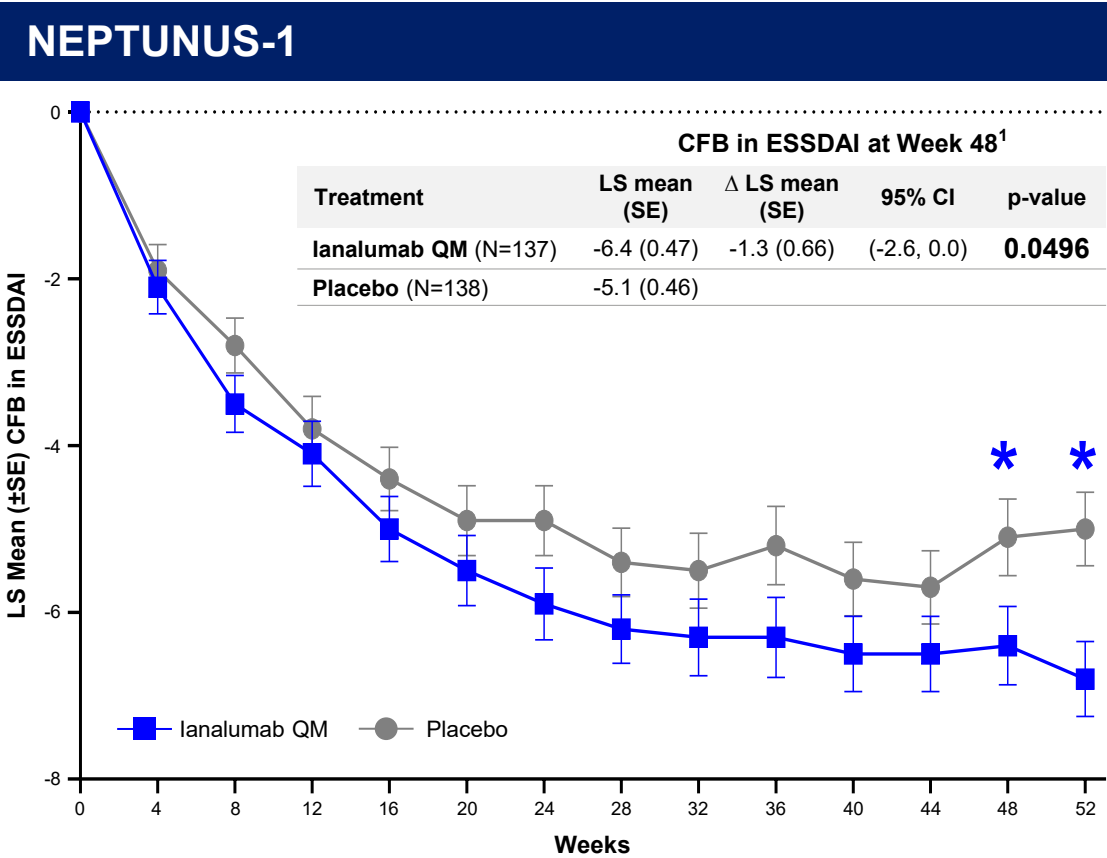
See page 55 for references (footnote 1).

# Ianalumab QM demonstrated statistically significant improvement in ESSDAI in both NEPTUNUS studies<sup>1</sup>



See page 55 for references (footnote 1). \*p<0.05. 1. ANCOVA model with study treatment, ESSDAI strata, and region as factors and baseline score as covariate. N, number of patients in each treatment group of the specified analysis set; n, number of patients with evaluable data.

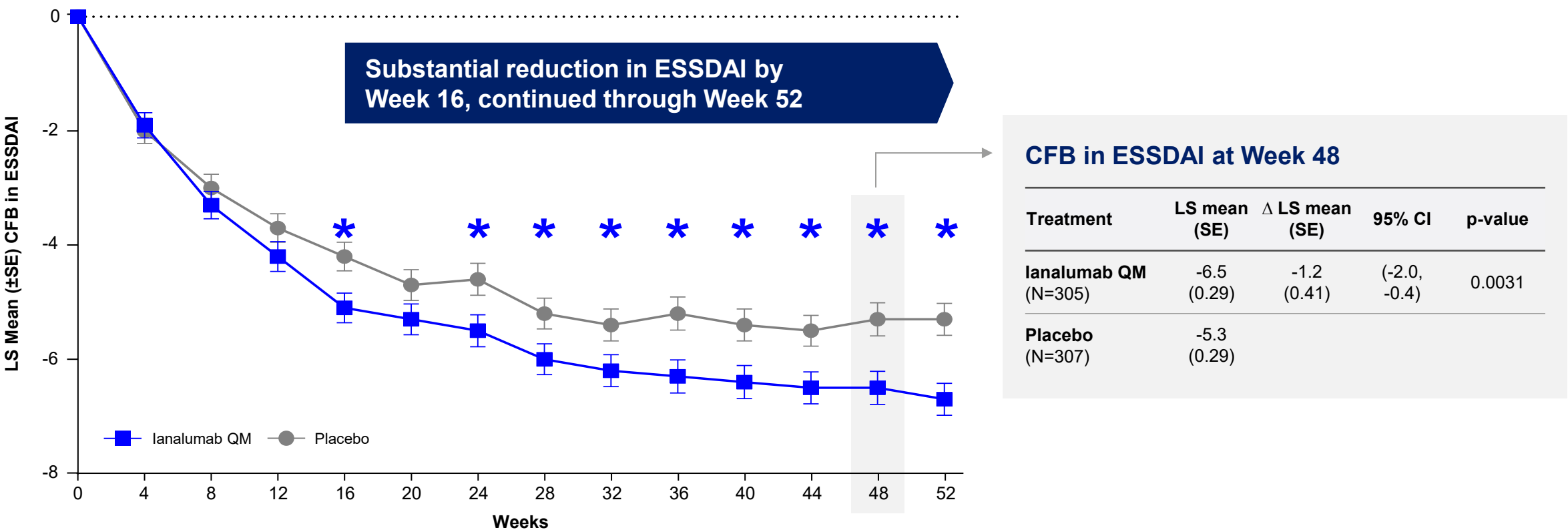
# Ianalumab QM demonstrated statistically significant improvement in ESSDAI in both NEPTUNUS studies<sup>1</sup>



See page 55 for references (footnote 1). \*p<0.05. 1. ANCOVA model with study treatment, ESSDAI strata, and region as factors and baseline score as covariate. N, number of patients in each treatment group of the specified analysis set; n, number of patients with evaluable data.

# Ianalumab QM showed rapid and sustained reduction in disease activity compared to placebo in the pooled analysis<sup>1</sup>

## Pooled NEPTUNUS data










See page 55 for references (footnote 1). \*p<0.05. 1. ANCOVA model with study treatment, ESSDAI strata, and region as factors and baseline score as covariate. N, number of patients in each treatment group of the specified analysis set; n, number of patients with evaluable data.



# Ianalumab QM showed consistent improvement in continuous secondary endpoints over placebo at Week 48<sup>1</sup>

## Pooled NEPTUNUS data





Endpoint: Treatment group	LS mean	Difference in LS mean (95% CI)	Favor Placebo	Favor Ianalumab	p-value
<b>ESSDAI: Total score</b> Ianalumab QM (N=305) Placebo (N=307)	-6.5 -5.3	-1.2 (-2.0, -0.4)			<b>0.0031</b>
<b>SSSD: 4-item unweighted summary score</b> Ianalumab QM (N=305) Placebo (N=307)	-1.52 -1.29	-0.23 (-0.53, 0.08)			0.1469
<b>ESSPRI: Total score</b> Ianalumab QM (N=305) Placebo (N=307)	-1.73 -1.47	-0.26 (-0.58, 0.05)			0.1035
<b>PaGA: Visual analog scale (0-100)</b> Ianalumab QM (N=305) Placebo (N=307)	-13.5 -8.7	-4.9 (-8.3, -1.5)			<b>0.0049</b>
<b>PhGA: Visual analog scale (0-100)</b> Ianalumab QM (N=305) Placebo (N=307)	-29.2 -25.9	-3.3 (-6.4, -0.3)			<b>0.0332</b>
<b>FACIT-F: Total score</b> Ianalumab QM (N=305) Placebo (N=307)	7.6 6.8	0.9 (-0.7, 2.4)			0.2624
<b>Whole salivary flow rate (mL/min): Stimulated</b> Ianalumab QM (N=305) Placebo (N=307)	0.121 0.063	0.059 (-0.020, 0.137)			0.1454

See page 55 for references (footnote 1). For presentation purpose, the lines of LS mean difference (95% CI) are multiplied by -1 for ESSDAI, PHGA and PAGA; lines for stimulated salivary flow rates are scaled up with multiplying by 10; and multiplied by -10 for ESSPRI and SSSD. N, number of patients in each treatment group of the specified analysis set



# Ianalumab QM showed consistent numerical improvement in binary secondary endpoints over placebo at Week 48<sup>1</sup>

## Pooled NEPTUNUS data

Endpoint: Treatment group		Estimated response proportion (%)	Estimated difference (95% CI)	<div><div>Favor Placebo</div><div>Favor ianalumab</div></div>	p-value
1	<b>SSSD response</b>				
	Ianalumab QM (N=279)	38.5	2.6 (-5.5, 10.6)		0.5335
	Placebo (N=276)	35.9			
2	<b>ESSPRI response</b>				
	Ianalumab QM (N=280)	42.5	5.6 (-2.3, 13.5)		0.1650
	Placebo (N=271)	36.9			
<b>ESSDAI &gt;= 5 points reduction</b>					
Ianalumab QM (N=305)		59.2	6.8 (-0.7, 14.2)		0.0748
Placebo (N=307)		52.4			
<b>ESSDAI &lt; 5</b>					
Ianalumab QM (N=305)		53.4	8.3 (0.6, 15.9)		<b>0.0342</b>
Placebo (N=307)		45.1			
				0	

Response definitions >

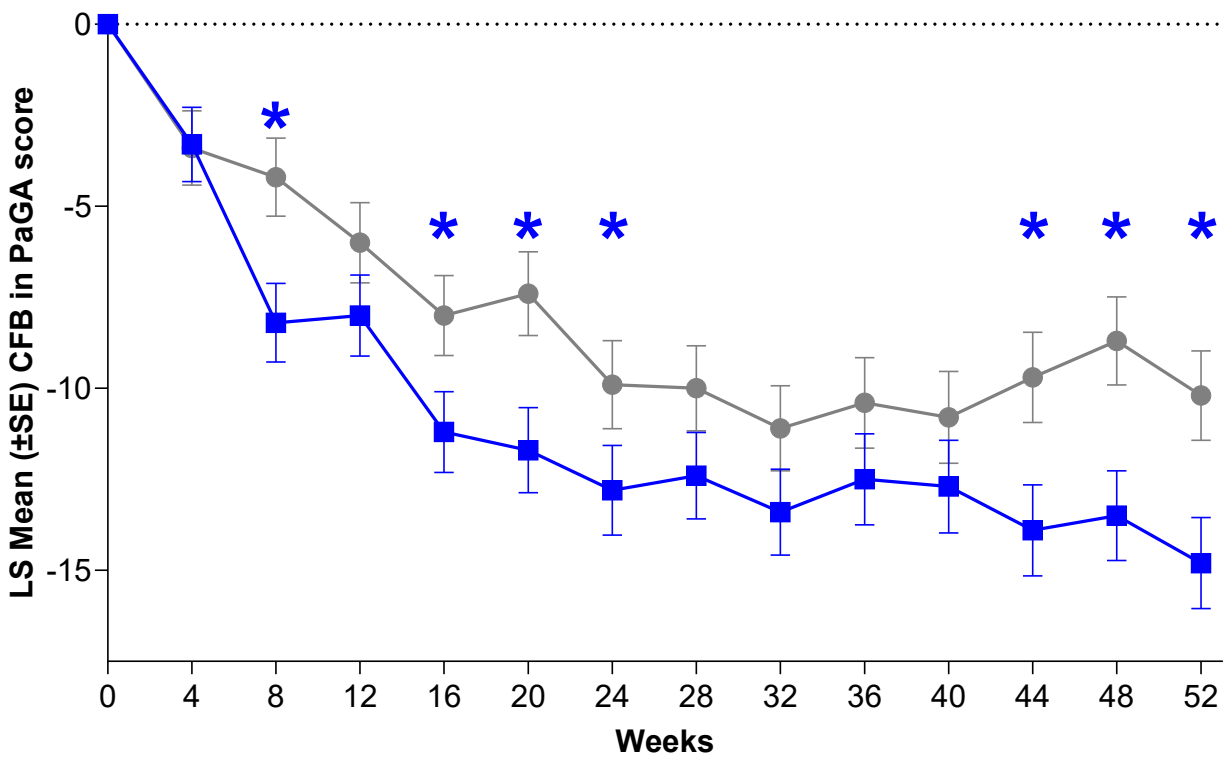
1 | **SSSD:** ≥2-point reduction in patients with baseline ≥3

2 | **ESSPRI:** ≥ 2.3-point reduction in patients with baseline ≥3

See page 55 for references (footnote 1). N, number of patients in each treatment group of the specified analysis set

# Ianalumab QM delivered fast and sustained symptom relief (as measured by PaGA) as early as Week 8 and up to Week 52

Pooled NEPTUNUS data



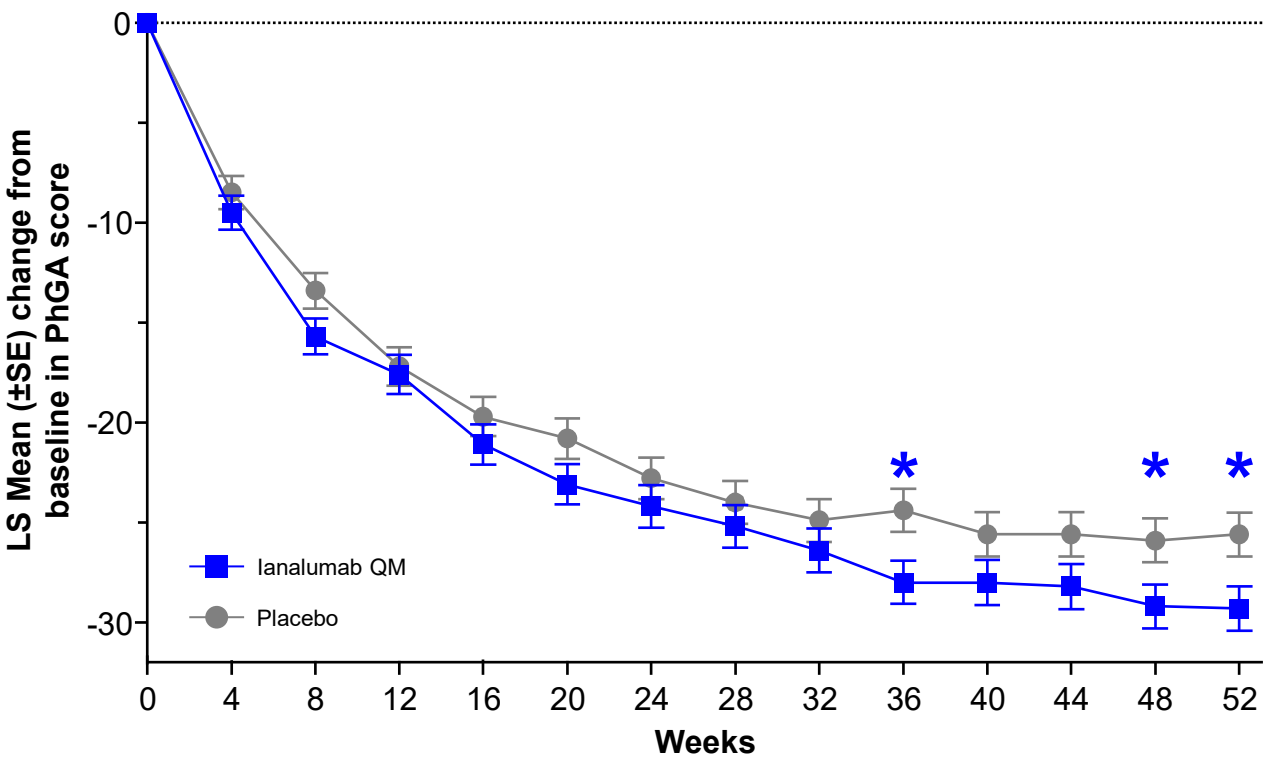
CFB in PaGA at Week 48

Treatment	LS mean (SE)	$\Delta$ LS mean (SE)	95% CI	p-value
Ianalumab QM (N=305)	-13.5 (1.23)	-4.9 (1.73)	(-8.3, -1.5)	0.0049
Placebo (N=307)	-8.7 (1.21)			

See page 55 for references (footnote 1). \*Indicates significant treatment effect observed with nominal p-value <0.05. N, number of patients in each treatment group of the specified analysis set; n, number of patients with evaluable data.

# Ianalumab QM demonstrated a greater improvement in physician's assessment of disease burden (PhGA)<sup>1</sup>

## Pooled NEPTUNUS data



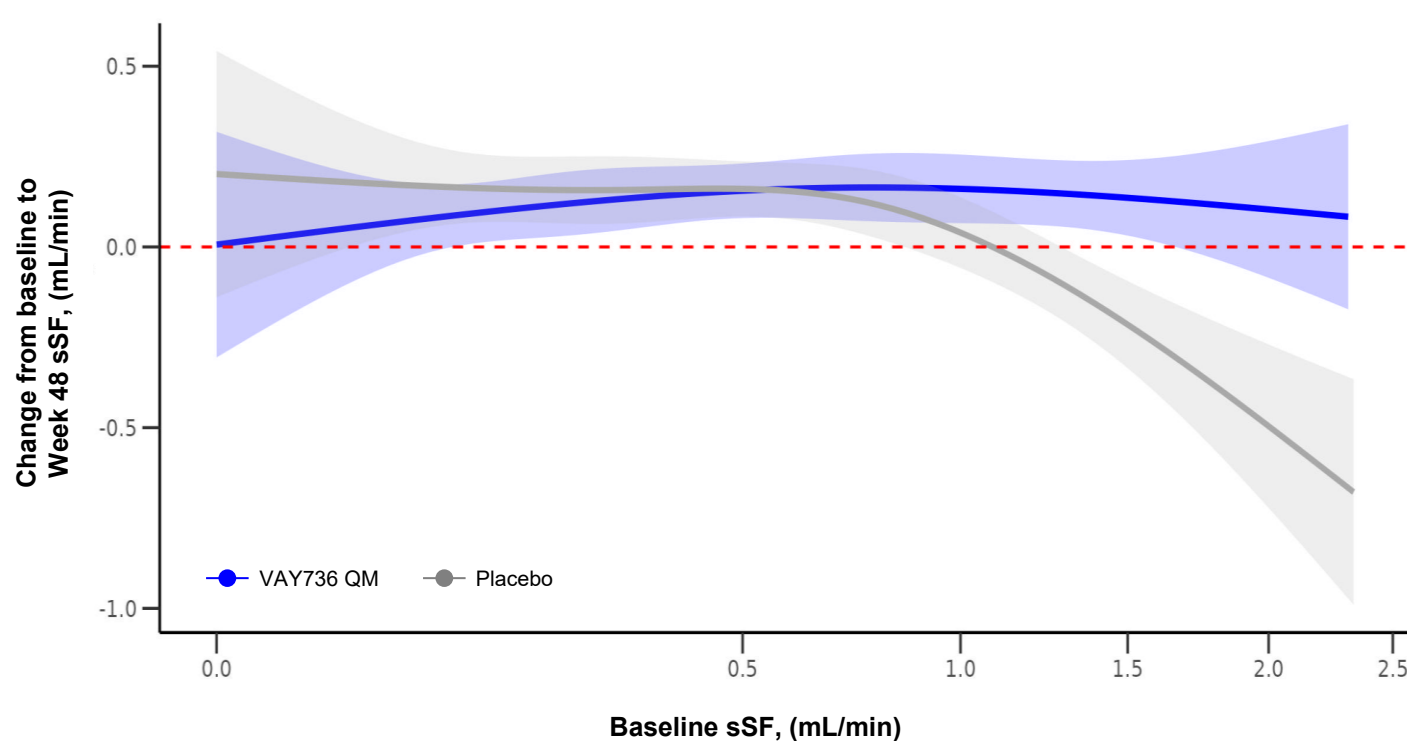
## CFB in PhGA at Week 48

Treatment	LS mean (SE)	Δ LS mean (SE)	95% CI	p-value
Ianalumab QM (N=305)	-29.2 (1.10)	-3.3 (1.55)	(-6.4, -0.3)	0.0332
Placebo (N=307)	-25.9 (1.09)			

See page 55 for references (footnote 1). \*Indicates significant treatment effect observed with nominal p-value <0.05. N, number of patients in each treatment group of the specified analysis set; n, number of patients with evaluable data.

# Ianalumab QM preserved salivary function and prevented disease progression on the salivary gland<sup>1</sup>

## Pooled NEPTUNUS data: Week 48 change in sSF



## Ianalumab preserved salivary function

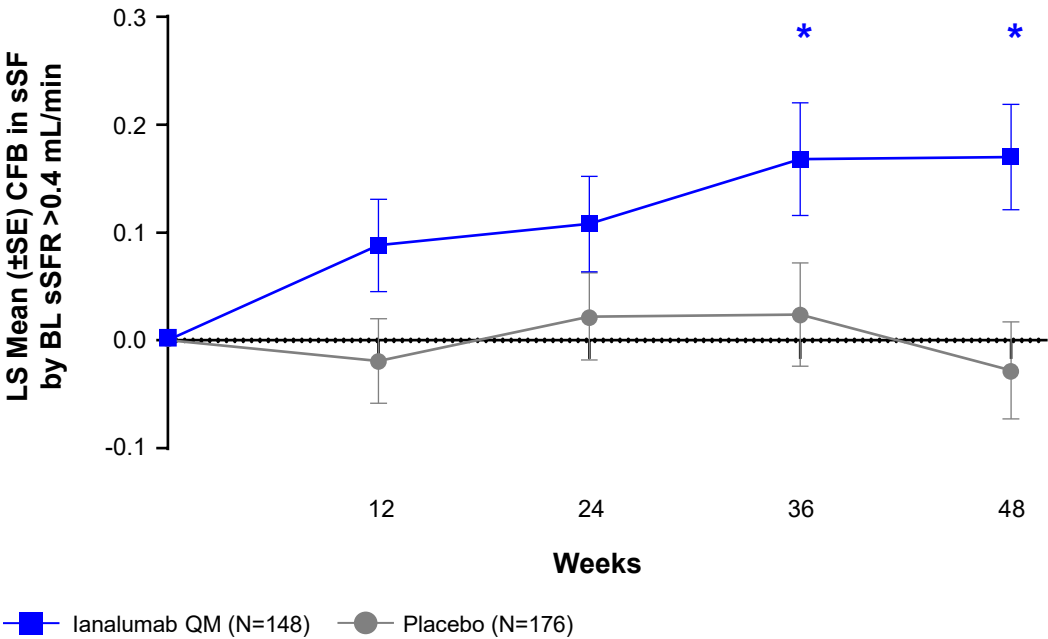
- Ianalumab maintained stimulated salivary flow (sSF) at Week 48 regardless of baseline rates
- Placebo showed declines in patients with functioning salivary glands at baseline; minimal change seen in those with reduced function

See page 55 for references (footnote 1).

# Patients with sSF >0.4 mL/min at baseline showed improvements in oral dryness (SSSD) with ianalumab in a post hoc pooled analysis<sup>1</sup>

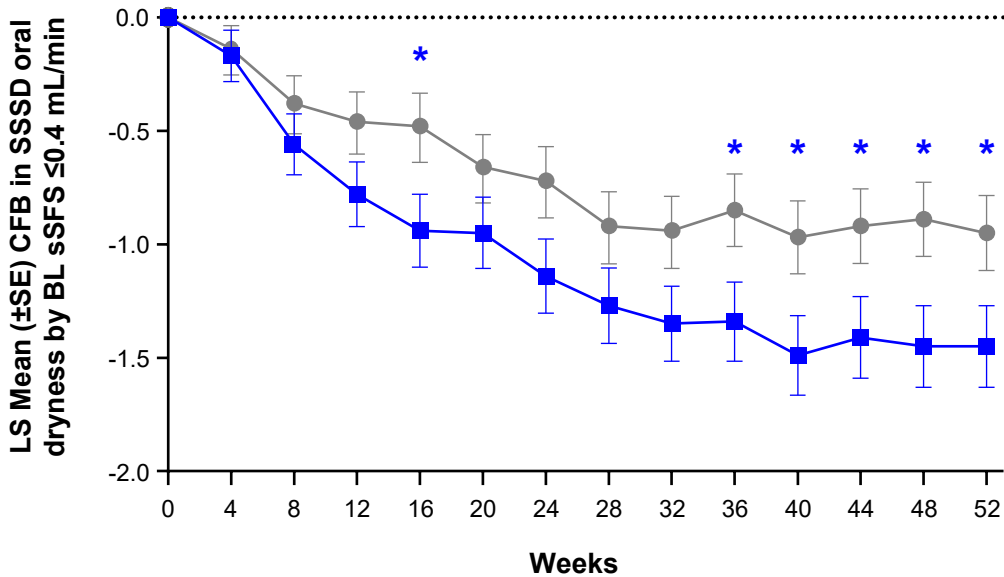
## Flow rate

Patients with baseline sSF >0.4 mL/min



## Oral dryness (SSSD)

Patients with baseline sSF >0.4 mL/min



See page 55 for references (footnote 1). \*Indicates a significant treatment effect observed with a nominal p-value of <0.05; #[0.4 mL/min = median of pooled BL data].

# Ianalumab showed a favorable safety profile with AEs and SAEs comparable to placebo<sup>1</sup>

Category <sup>2#</sup>	NEPTUNUS-1		NEPTUNUS-2		
	Ianalumab QM (N=137), n (%)	Placebo (N=138), n (%)	Ianalumab QM (N=168), n (%)	Ianalumab Q3M (N=167), n (%)	Placebo (N=169) n (%)
<b>AEs</b>	116 (84.7)	111 (80.4)	146 (86.9)	145 (86.8)	145 (85.8)
<b>AEs related to study treatment</b>	62 (45.3)	48 (34.8)	90 (53.6)	82 (49.1)	69 (40.8)
<b>AEs leading to treatment discontinuation</b>	5 (3.6)	5 (3.6)	14 (8.3)	11 (6.6)	6 (3.6)
<b>SAEs</b>	<b>5 (3.6)</b>	<b>12 (8.7)</b>	<b>16 (9.5)</b>	<b>13 (7.8)</b>	<b>18 (10.7)</b>
<b>Death</b>	<b>0</b>	<b>1 (0.7)</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Infections</b>	<b>78 (56.9)</b>	<b>81 (58.7)</b>	<b>92 (54.8)</b>	<b>98 (58.7)</b>	<b>113 (66.9)</b>
Serious infections	3 (2.2)	1 (0.7)	5 (3.0)	5 (3.0)	8 (4.7)
Opportunistic infections <sup>2</sup>	-	-	1 (0.6)	1 (0.6)	1 (0.6)
<b>Malignant neoplasms</b>					
Waldenstrom's macroglobulinemia (PT)	0	1 (0.7)	-	-	-
Tubular breast carcinoma (PT)	-	-	1 (0.6)	0	0
Adrenal neoplasm (PT)	-	-	0	1 (0.6)	0
Intraductal proliferative breast lesion (PT)	-	-	0	1 (0.6)	0
Squamous cell carcinoma (PT)	-	-	0	1 (0.6)	0

See page 55 for references (footnotes 1-3). N, total number of patients per group; n, number of patients with an event.

# Ianalumab demonstrated clinically meaningful benefit in SjD

## Results summary: NEPTUNUS 1 & 2

### First-ever successful Phase III studies in SjD

- Statistically significant ESSDAI improvement in both NEPTUNUS trials
- Rapid, sustained disease activity reduction vs. placebo in the pooled analysis

### Consistent improvements in secondary endpoints

- More patients achieved low ESSDAI disease activity
- Reduced patient-assessed disease burden (PaGA)
- Reduced physician-assessed disease burden (PhGA)
- Numerical improvements in dryness, pain, fatigue (SSSD, ESSPRI)

### Impact on symptoms of importance to patients

- Preserved salivary function and prevented disease progression on salivary gland
- Improved oral dryness (SSSD) in patients with baseline saliva production (post hoc analysis)

### Favorable safety profile

- AEs and SAEs comparable to placebo

# Global regulatory submissions H1 2026

				
	US	EU	China	Japan
Submission	Q1 2026	Q1 2026	Q1 2026	Q2 2026
	FDA Fast Track designation received 2016			



# Building on NEPTUNUS studies, launching evidence generation plan to further demonstrate systemic and symptomatic relief

## Selected elements of evidence generation strategy

NEPTUNUS extension study<sup>1</sup> to assess real-world effectiveness and safety

**Initiated 2025**

Exploring future studies to assess ianalumab's impact across diverse SjD populations

**Under consideration**



Comprehensive characterization of ianalumab efficacy and safety across disease activity, control, flares<sub>2</sub>, endpoints and subpopulations

**Publications planned in 2026**

See page 56 for references (footnotes 1-2).

# Launching disease state education to increase recognition of SjD as a serious, systemic, autoimmune disease<sup>1</sup>

## Context

- Lack of approved therapies
- Low familiarity with clinical endpoints

## Opportunity

- Expand understanding of systemic nature and burden of SjD
- Provide framework for physicians to identify moderate to severe patients
- Engage and empower SjD patients

This site is for US Health Care Professionals only.

**Sjögren's disease is more than dryness**

A Systemic, Heterogeneous Disease

Significant Disease Burden

Inadequate Treatment Options

B-Cell-Driven Disease

Resources to Go Further

THIS IS HOW  
**SJÖGREN'S SJÖUTS!**

Sjögren's disease is more than dryness<sup>1</sup>

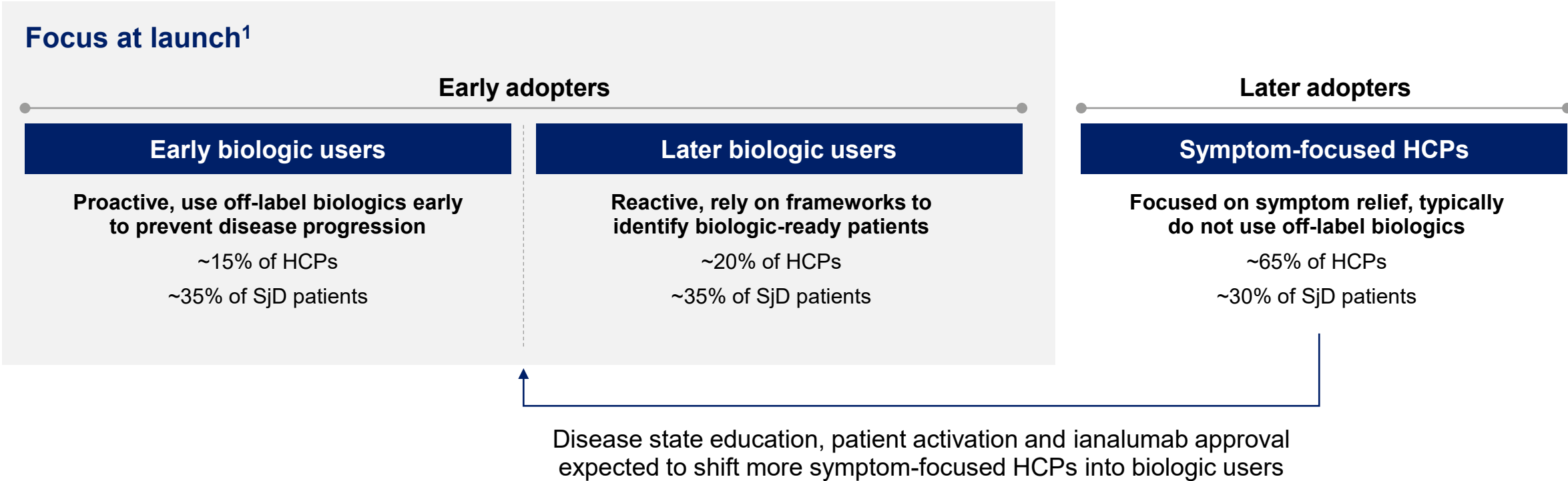
9/25 FA-11416845

**Sjögren's disease is a serious, systemic autoimmune disease that can be progressive<sup>2-5</sup>**

More than dryness | Complications of SjD | Explore key questions

See page 56 for references (footnote 1).

# For the US launch, we expect initial adoption from Rheumatologists who are current biologic users, a segment we know well

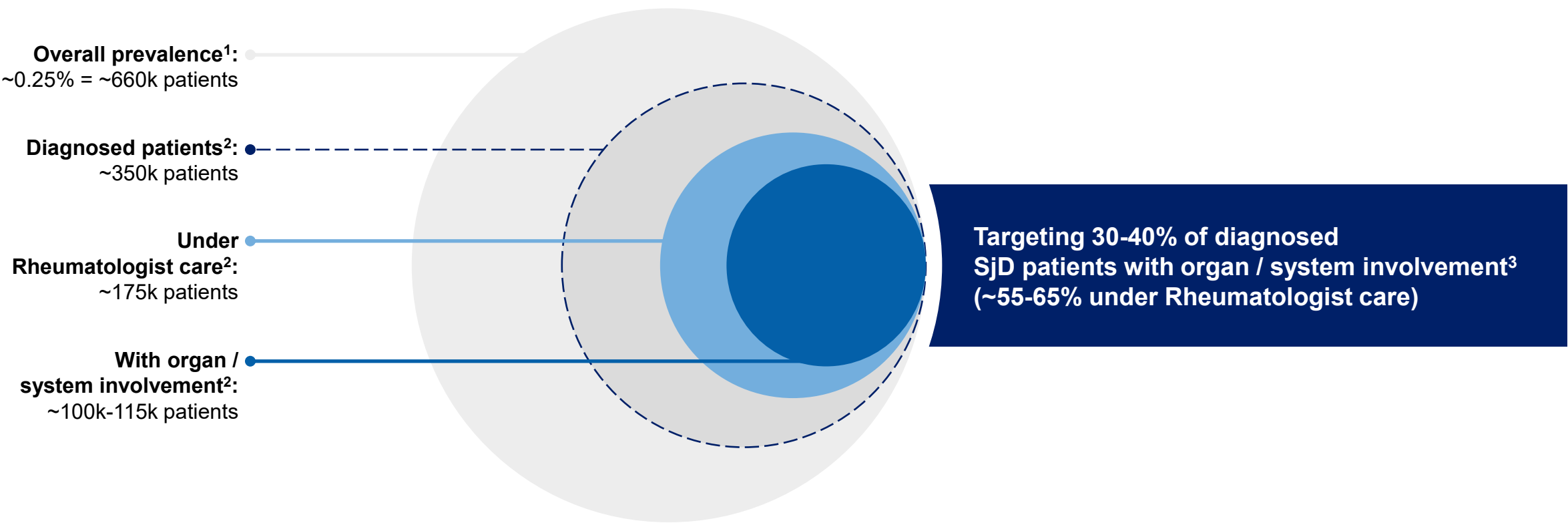


**>90% overlap between Cosentyx/Ilaris field force and Rheumatologists treating SjD; ~100% coverage of early adopters<sup>1</sup>**

See page 56 for references (footnote 1).

# With increasing awareness of SjD, opportunity to engage and empower moderate to severe patients with organ involvement

## US SjD prevalence



See page 56 for references (footnotes 1-3).

# Positive Phase III study in SjD, a highly heterogenous disease, increases confidence in other B cell-driven diseases

Indication	Phase I	Phase II	Phase III	Status
SjD				Positive PhIII
SLE				Readout 2027
LN				Readout 2027
SSc				Readout 2027
2L ITP				Positive PhIII
1L ITP				Readout 2026
2L wAIHA				Readout 2026

Disease area:

Rheumatology

Hematology

## Future launches leverage existing infrastructure and capabilities

**SLE**  
Builds on Cosentyx Rheumatology experience

**LN**  
Builds on Rheumatology and Nephrology

**SSc**  
High overlap with Rheumatology

**ITP & wAIHA**  
Builds on Promacta, Hematology footprint

# Key takeaways

## Broad and deep immunology pipeline

With multiple late-stage assets targeting areas of high unmet need

## Rhapsido poised for strong CSU launch

As first oral option post-antihistamine failure; multiple LCM readouts starting next year

## Ianalumab demonstrated meaningful benefit in SjD

Consistent across studies, over time, and across patient- and physician-reported outcomes

## Positive SjD data de-risks ianalumab LCM

Across B cell diseases, supporting multi-blockbuster potential

## Compounding commercial capabilities

To drive launch excellence and maximize pipeline value

# Appendix

# Baseline characteristics were generally balanced between treatment groups

Characteristics	NEPTUNUS-1 (N=275)		NEPTUNUS-2 (N=504)		
	Ianalumab QM N=137	Placebo N=138	Ianalumab QM N=168	Ianalumab Q3M N=167	Placebo N=169
<b>Age (years)<sup>1</sup></b>	48.8 (11.7)	48.0 (13.8)	49.6 (11.4)	50.4 (12.7)	50.9 (12.8)
<65 years, n (%)	125 (91.2)	126 (91.3)	149 (88.7)	145 (86.8)	143 (84.6)
<b>Female, n (%)</b>	127 (92.7)	127 (92.0)	158 (94.0)	159 (95.2)	161 (95.3)
<b>ESSDAI<sup>1</sup></b>	12.7 (6.81)	12.6 (6.73)	11.7 (5.8)	11.5 (6.2)	12.1 (5.7)
ESSDAI >13, n (%)	51 (37.2)	48 (34.8)	45 (26.8)	46 (27.5)	47 (27.8)
<b>ESSPRI<sup>1</sup></b>	6.40 (2.0)	6.01 (2.2)	6.29 (2.1)	6.21 (2.2)	6.26 (2.2)
ESSPRI ≥5, n (%)	108 (78.8)	95 (68.8)	126 (75.0)	123 (73.7)	130 (76.9)
<b>sSF (mL/min)<sup>1</sup></b>	0.62 (0.6)	0.65 (0.5)	0.62 (0.6)	0.56 (0.7)	0.70 (0.7)
<b>Positive Anti-Ro/SSA status, n (%)</b>	125 (91.2)	132 (95.7)	160 (95.2)	161 (96.4)	158 (93.5)
<b>Any DMARDs use, n (%)</b>	85 (62.0)	94 (68.1)	109 (64.9)	100 (59.9)	117 (69.2)
HCQ	65 (47.4)	78 (56.5)	95 (56.5)	82 (49.1)	103 (60.9)
MTX	29 (21.2)	22 (15.9)	22 (13.1)	21 (12.6)	26 (15.4)
AZA	4 (2.9)	14 (10.1)	9 (5.4)	14 (8.4)	10 (5.9)
<b>Systemic CS usage, n (%)</b>	43 (31.4)	47 (34.1)	43 (25.6)	42 (25.1)	44 (26.0)
≥5 mg/day	35 (25.5)	40 (29.0)	40 (23.8)	39 (23.4)	33 (19.5)

1. Values are mean (SD), unless otherwise specified. AZA, azathioprine; CS, corticosteroids; DMARDs, disease-modifying antirheumatic drugs; ESSDAI, EULAR Sjögren's Syndrome Disease Activity Index; ESSPRI, EULAR Sjögren's Syndrome Patient Reported Index; EULAR, European Alliance of Associations for Rheumatology; HCQ, hydroxychloroquine; MTX, methotrexate; QM, monthly; Q3M, every 3 months; sSF, stimulated whole-salivary flow.



# Abbreviations

Abbreviation	Full Form
AAV	Adeno-Associated Virus
ACR	American College of Rheumatology
AD	Atopic Dermatitis
ADCC	Antibody-Dependent Cellular Cytotoxicity
AE	Adverse Events
AH	Antihistamine
AID	Autoimmune Inflammatory Disease
AtD	Atopic Dermatitis
BL	Baseline
CI	Confidence Interval
CIndU	Chronic Inducible Urticaria
CSU	Chronic Spontaneous Urticaria
CV	Cardiovascular
ESSDAI	EULAR Sjögren's Syndrome Disease Activity Index
ESSPRI	EULAR Sjögren's Syndrome Patient Reported Index
EULAR	European Alliance of Associations for Rheumatology
FA	Food Allergy
FF	Field Force
FiC	First-in-Class
gMG	Generalized Myasthenia Gravis
HCP	Health Care Provider
HS	Hidradenitis Suppurativa
IgE	Immunoglobulin E
IIM	Idiopathic Inflammatory Myopathy
ITP	Immune Thrombocytopenia
L/D	Lymphodepletion
LN	Lupus Nephritis
LS	Least Squares
LFT	Liver Function Test
mAb	Monoclonal Antibody
MoA	Mechanism of Action
MS	Multiple sclerosis
PaGA	Patient Global Assessment
PCP	Primary Care Physician
PhGA	Physician Global Assessment

Abbreviation	Full Form
pMS	Progressive Multiple Sclerosis
PRO	Patient-Reported Outcome
PsO	Psoriasis
PT	Preferred Term
Q3M	Every Three Months
QoL	Quality of Life
QM	Monthly
RA	Rheumatoid arthritis
rMS	Relapsing Multiple Sclerosis
SAE	Serious Adverse Event
SE	Standard Error
SjD	Sjögren's Disease
SLE	Systemic Lupus Erythematosus
srSLE	Refractory Systemic Lupus Erythematosus
SSc	Systemic Sclerosis
sSF	Stimulated Whole-Salivary Flow
SSSD	Sjögren's Syndrome Symptom Diary
wAIHA	Warm Autoimmune Hemolytic Anemia

# References 1 of 6

## Slide 5

- 1 Miller FW. *Curr Opin Immunol* 2023; 80:102266.
- 2 Scientific American. The terrible toll of 76 autoimmune diseases. Accessed June 26, 2025. [The Terrible Toll of 76 Autoimmune Diseases | Scientific American](#).
- 3 The World Bank. Population, total. Accessed June 26, 2025. <https://data.worldbank.org/indicator/SP.POP.TOTL>.
- 4 Incidence, prevalence, and co-occurrence of autoimmune disorders over time and by age, sex, and socioeconomic status: a population-based cohort study of 22 million individuals in the UK - *The Lancet*.
- 5 Innovative Medicines Initiative. Unravelling the enigma of autoimmune diseases. Accessed June 26, 2025. [Unravelling the enigma of autoimmune diseases | IMI Innovative Medicines Initiative](#).
- 6 [Immunology Market Size & Trends | Growth Overview \[2032\]](#).
- 7 [Immunotherapy Drugs Market Size | Industry Report, 2030](#).
- 8 [Immunotherapy Drugs Market Size, Share, Growth & Industry Report, 2030](#).
- 9 Pozderac I, et al. *Acta Dermatovenereol Alp Pannonica Adriat*. 2020;29(3):141-148. [Chronic inducible urticaria: classification and prominent features of physical and non-physical types – PubMed](#).
- 10 Sabat R, et al. *Lancet*. 2025;405(10476):420-438. [Hidradenitis suppurativa – PubMed](#).
- 11 Negrini S, et al. *Clin Exp Med*. 2022;22:9-25. [Sjögren's syndrome: a systemic autoimmune disease – PubMed](#).
- 12 Robinson GA, et al. *Front Immunol*. 2022;12:806560. [The Role of Immunometabolism in the Pathogenesis of Systemic Lupus Erythematosus – PubMed](#).
- 13 Maurer M, et al. *Allergy*. 2011;66:317-330. [Unmet clinical needs in chronic spontaneous urticaria. A GA<sup>2</sup>LEN task force report – PubMed](#).
- 14 Mac Mahon J, et al. *Patient Relat Outcome Meas*. 2020;11:21-26. [An Update on Health-Related Quality of Life and Patient-Reported Outcomes in Hidradenitis Suppurativa – PubMed](#).
- 15 Parkinson J, et al. *Ther Adv Musculoskel Dis*. 2020;12:1759720X20970028. [Depression in patients with spondyloarthritis: prevalence, incidence, risk factors, mechanisms and management – PubMed](#).
- 16 Goldstein S, et al. *Acta Derm Venereol*. 2019;99:1091-1098. [Perspectives on Living with Chronic Spontaneous Urticaria: From Onset through Diagnosis and Disease Management in the US – PubMed](#).
- 17 [NIH-Wide Strategic Plan For Autoimmune Disease Research](#).
- 18 [Microsoft PowerPoint - ISPOR25 Auto Immu 03 28c 2025](#).

# References 2 of 6

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## Slide 10

- 1 Data presented at EULAR 2025.
- 2 Rapcabtagene autoleucel.
- 3 Mean line with standard error bars.
- 4 Basket study design. Patients have a single disease rather than comorbid conditions.
- 5 Intended to be registration-enabling.

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## Slide 12

- 1 US FDA approval on September 30<sup>th</sup>, 2025.

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## Slide 13

- 1 Novartis data on file.
- 2 GA2LEN, World Bank, Novartis. Data for year 2025. Epidemiology numbers include patients without access.
- 3 Kolkhir P, Giménez-Arnau AM, Kulthanan K, Peter J, Metz M, Maurer M. Urticaria. Nat Rev Dis Primers. 2022;8(1):61. 10.1038/s41572-022-00389-z.
- 4 P Kolkhir et al. Urticaria Nature Reviews Disease Primer (2022) 8:61.
- 5 J Dermatolog Treat. 2025 Dec;36(1):2517384. doi: 10.1080/09546634.2025.2517384. Epub 2025 Jun 24.
- 6 Dermatol Ther (Heidelb). 2025 Mar;15(3):747-761. doi: 10.1007/s13555-025-01348-8. Epub 2025 Feb 28.
- 7 Allergy. 2017 Dec;72(12):2005-2016. doi: 10.1111/all.13209. Epub 2017 Jul 10.

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## Slide 14

- 1 Originally 24-week data was presented at the American College of Allergy, Asthma, and Immunology (ACAAI) 2023 with 52-week data presented at European Academy of Allergy and Clinical Immunology (EAACI) 2024.
- 2 Full analysis set; data from the REMIX-1 and REMIX-2 studies presented at EAACI 2024.
- 3 Weekly Urticaria Activity Score (UAS7) comprised of the Weekly Itch Severity Score (ISS7) and the Weekly Hives Severity Score (HSS7).
- 4 Full analysis set; data from the REMIX-1 and REMIX-2 studies presented at European Academy of Dermatology and Venereology (EADV) 2024.

# References 3 of 6

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## Slide 16

- 1 Internal Novartis analysis leveraging multiple data sources, including IQVIA claims (LAAD, Xponent, DDD), Komodo claims.
- 

## Slide 17

- 1 Internal Novartis analysis leveraging multiple data sources, including IQVIA claims (LAAD, Xponent, DDD), Komodo claims.
  - 2 CSU patient sign-ups through disease state consumer-facing website.
- 

## Slide 18

- 1 Novartis data on file
  - 2 3-5 days are examples from Kisqali and Kesimpta (paid and bridge)
  - 3 Fabhalta IgAN reached 68% 5 months post-launch; Kisqali eBC achieved 79% Commercial access to label in 5 months post-launch
  - 4 Average from Kesimpta and Kisqali
- 

## Slide 21

- 1 Mariette, X and Criswell, LA, *N Engl J Med* 2018;378:931-939 (adapted)
  - 2 Retamozo S, Brito-Zerón P, Ramos-Casals M. *Lupus*. 2019;28(8):923-936.
- 

## Slide 22

- 1 Novartis market research.
  - 2 [Sjögren's Disease](#) – Arthritis Foundation.
-

# References 4 of 6

<b>Slide 23</b>	
1	Prevalence assumes primary Sjogrens patients only. Source: Kantar Health, DRG, Evaluate Pharma, US demand study, Novartis. Data for year 2025. Epidemiology numbers include patients without access.
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**Slides 35-36**

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- 1 NEPTUNUS Extension: [NCT05350072](#).
- 2 Ianalumab Integrated Evidence Plan.

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## Slides 42

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