

Allakos



Corporate Update

February 15, 2022

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Allakos Investor Day Agenda

Robert Alexander, PhD

- Introductions

Craig A. Paterson, MD

- Review of KRYPTOS and ENIGMA 2 Clinical Studies

Evan S. Dellon, MD, MPH

- Physician Perspective

Robert Alexander, PhD

- Atopic Dermatitis and Chronic Spontaneous Urticaria

Marcus Maurer, MD

- Physician Perspective

Brad A. Youngblood, PhD

- Pipeline Strategy & Update

Closing Remarks

Q&A

Review of KRYPTOS (EoE) and ENIGMA2 (EG/EoD) Clinical Studies

Craig A. Paterson, MD
CMO – Allakos Inc.

KRYPTOS Phase 2/3 EoE Study Design

Study Design

- Multi-center, randomized, DB, placebo-controlled
- Active moderate to severe symptoms
 - Dysphagia Symptom Questionnaire (DSQ) ≥ 12
- Biopsy confirmed EoE
 - Esophagus: ≥ 15 eos/high power field (hpf) in 1 hpf
- 276 patients dosed (1:1:1 randomization)
 - High dose lirentelimab 1 + 3 + 3 + 3 + 3 + 3 mg/kg (n=91)
 - Low dose lirentelimab 1 + 1 + 1 + 1 + 1 + 1 mg/kg (n=93)
 - Placebo (n=92)
- 6 monthly doses
- Includes adolescents age 12-17
- Open-label extension

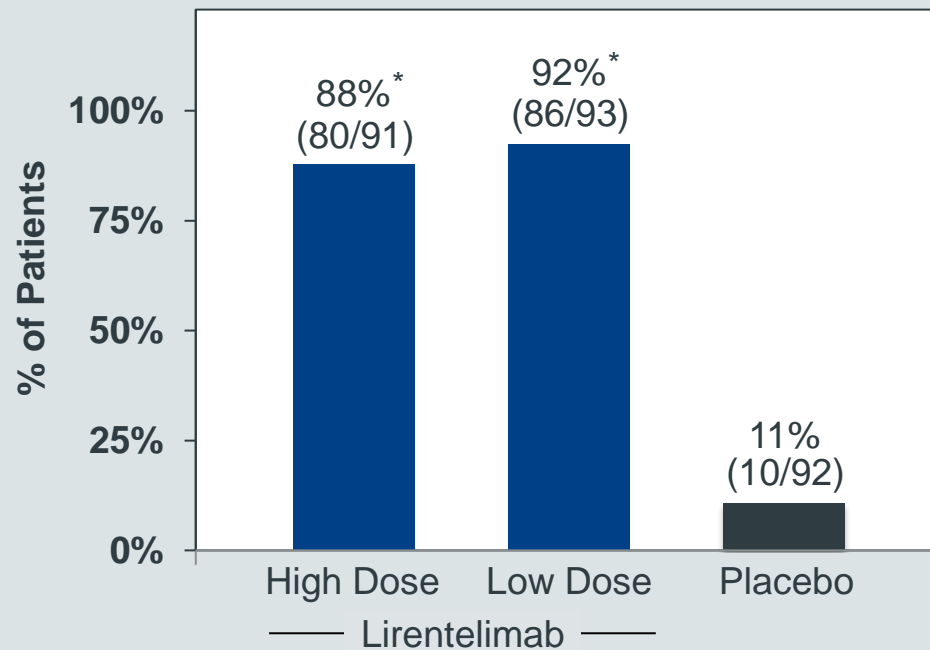
Endpoints

- **Histologic Co-Primary Endpoint**
 - Proportion of tissue eosinophil responders:
 - Esophagus: ≤ 6 eos/hpf in peak hpf
- **Symptom Co-Primary Endpoint**
 - Absolute change in Dysphagia Symptom Questionnaire (DSQ) score
- **Secondary Endpoints**
 - Percent change in DSQ from baseline
- **Other Analyses of Interest**
 - Activity in adolescents
 - Open-label extension

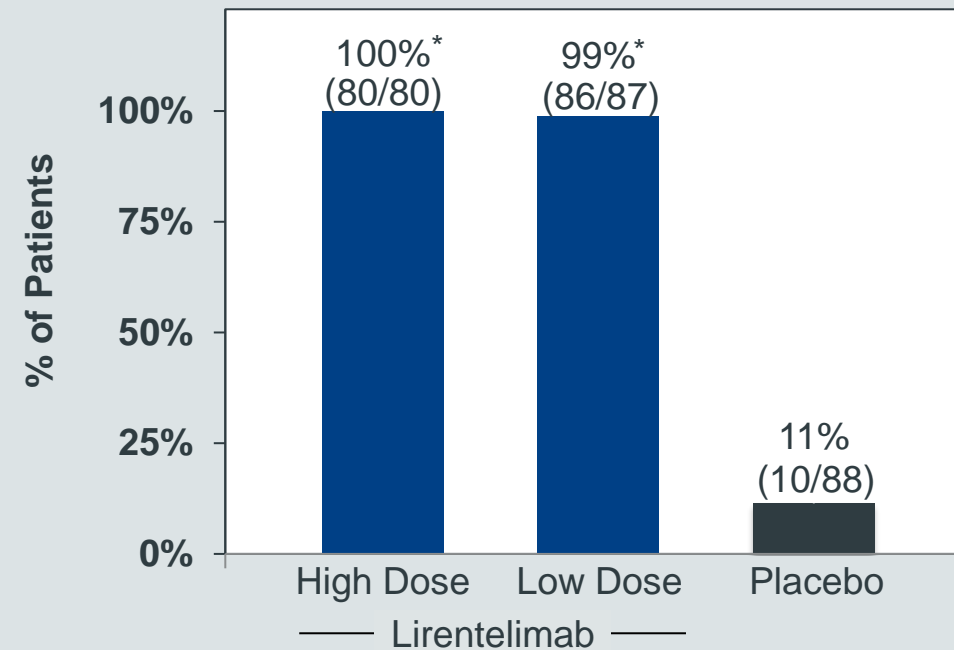
Histology Co-primary Endpoint: Eosinophil Responders

Proportion of EoE Eosinophil Responders (≤ 6 eos/hpf at Week 24)

Primary Analysis¹



Analysis with Observed Data



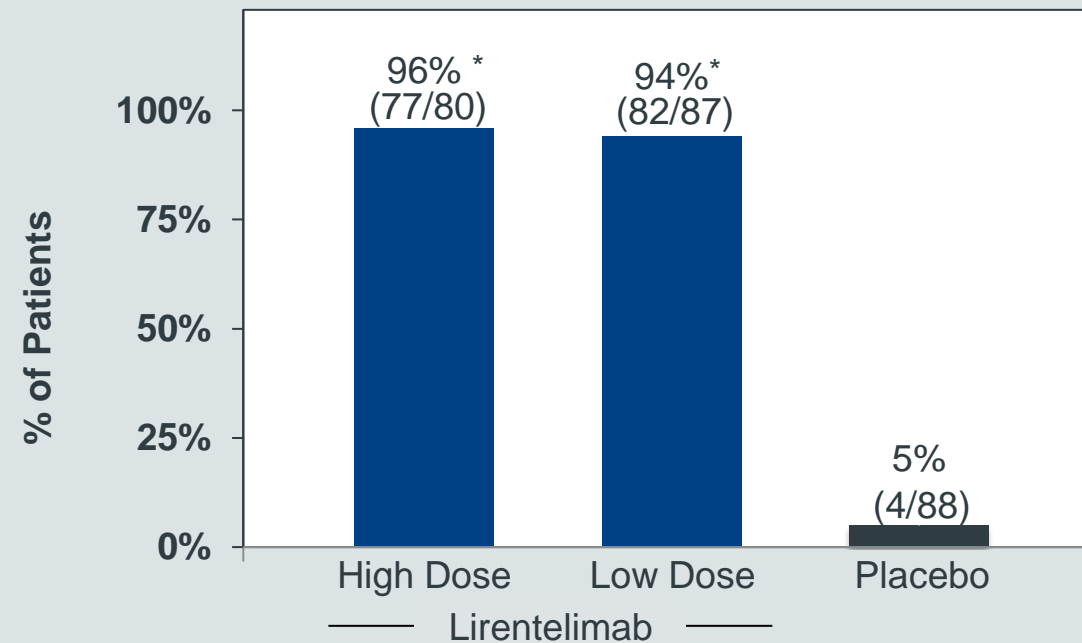
* Difference from placebo p-values < 0.0001 derived using Fisher's Exact Test

¹ ITT: Missing data was treated as non-responders

Complete Histologic Responders

Secondary Endpoint: Complete Histologic Remission at Week 24¹

Achieved Peak Esophageal Eos ≤ 1 Eos/hpf at Week 24

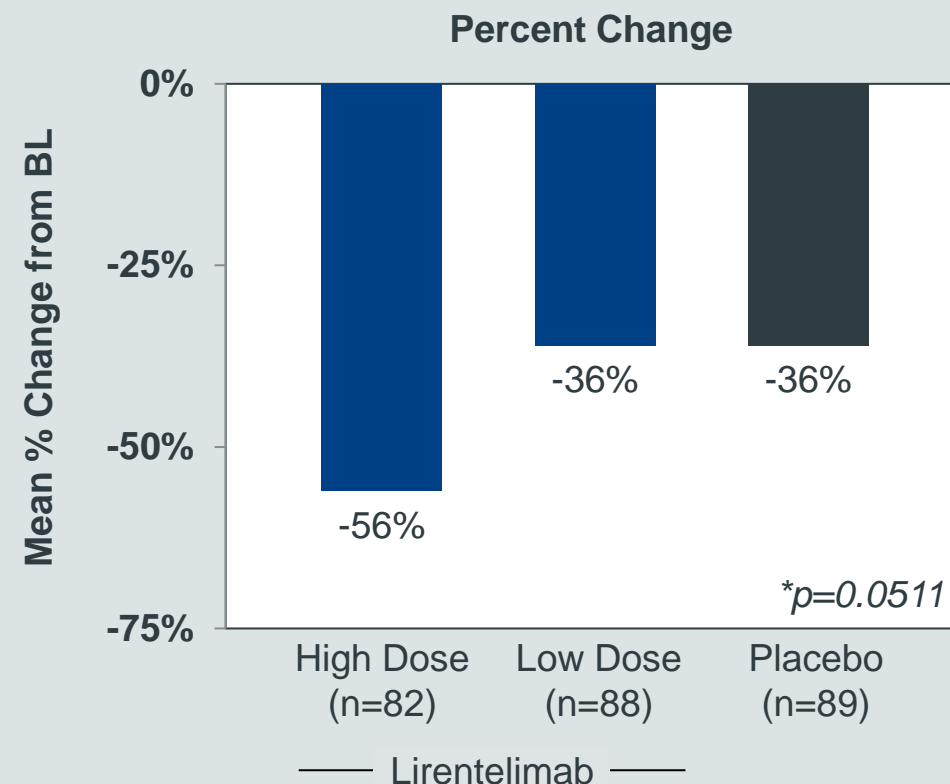
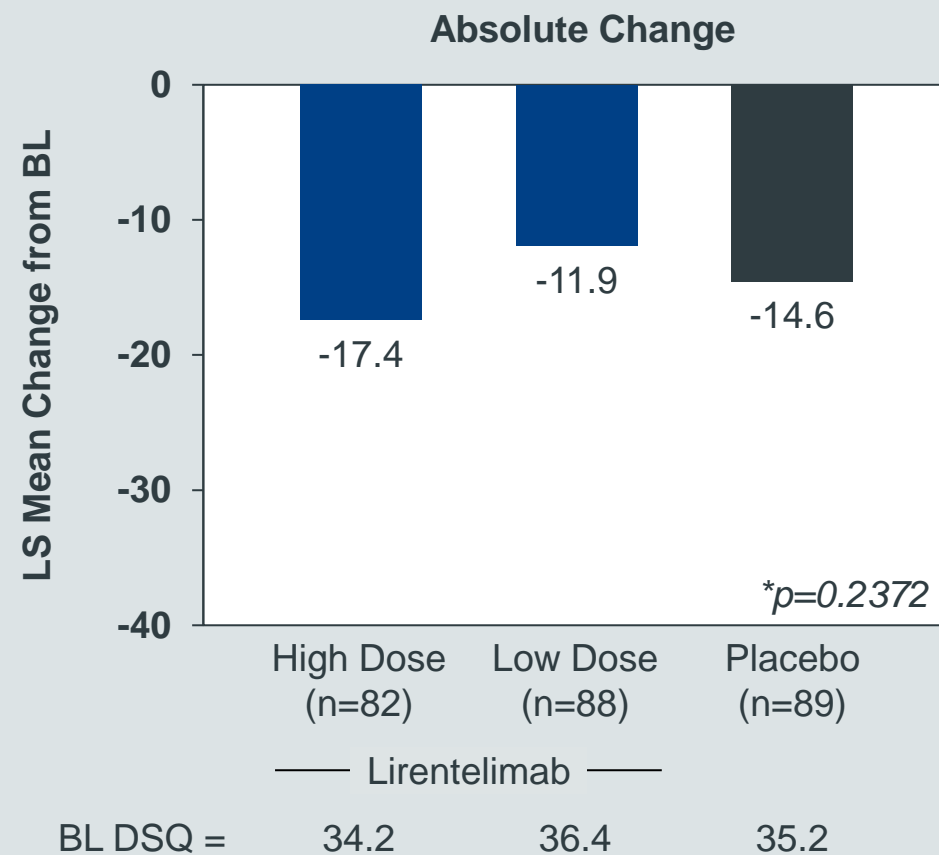


* Difference from placebo p-values <0.0001 derived using Fisher's Exact Test

¹ Observed data

Symptom Co-primary Endpoint: Change in DSQ

Change in DSQ at Weeks 23-24



* LS Means and HD lirentelimab from placebo p-values derived from ANCOVA model

Baseline Demographics and Patient Characteristics

Patient Characteristics	HD Lirentelimab (n=91)	LD Lirentelimab (n=93)	Placebo (n=92)
Age, median years (range)	29 (12 - 69)	34 (12 - 67)	32 (12 - 70)
Female sex, % (n)	29% (26)	43% (40)	40% (37)
History of EoE, % (n)	89% (81)	90% (84)	93% (86)
Duration of EoE, median years (range)	4 (0 - 38)	5 (0 - 56)	4 (0 - 18)
History of proton pump inhibitor use for EoE, % (n)	23% (21)	23% (21)	23% (21)
History of swallowed topical steroid for EoE, % (n)	20% (18)	17% (16)	21% (19)
History of esophageal dilatations, % (n)	4% (4)	6% (6)	8% (7)
Number of prior esophageal dilatations, mean \pm SD	2.3 \pm 1.3	2.3 \pm 1.5	1.4 \pm 0.5
History of atopy ¹ , % (n)	76% (69)	71% (66)	79% (73)
Peak esophageal eosinophil counts/hpf, mean \pm SD	59 \pm 33	61 \pm 35	59 \pm 33
Peripheral blood eosinophils cells/ μ L, median (IQR)	300 (230 - 470)	270 (180 - 440)	350 (200 - 435)
Serum IgE, kU/L, median (IQR)	103 (53 - 349)	99 (39 - 283)	90 (29 - 241)
Baseline DSQ [0-84], mean \pm SD	34 \pm 12	36 \pm 12	35 \pm 12

¹ Asthma, allergic rhinitis, atopic dermatitis and/or food allergy

Eosinophilic Threshold for Establishing Moderate-Severe EoE

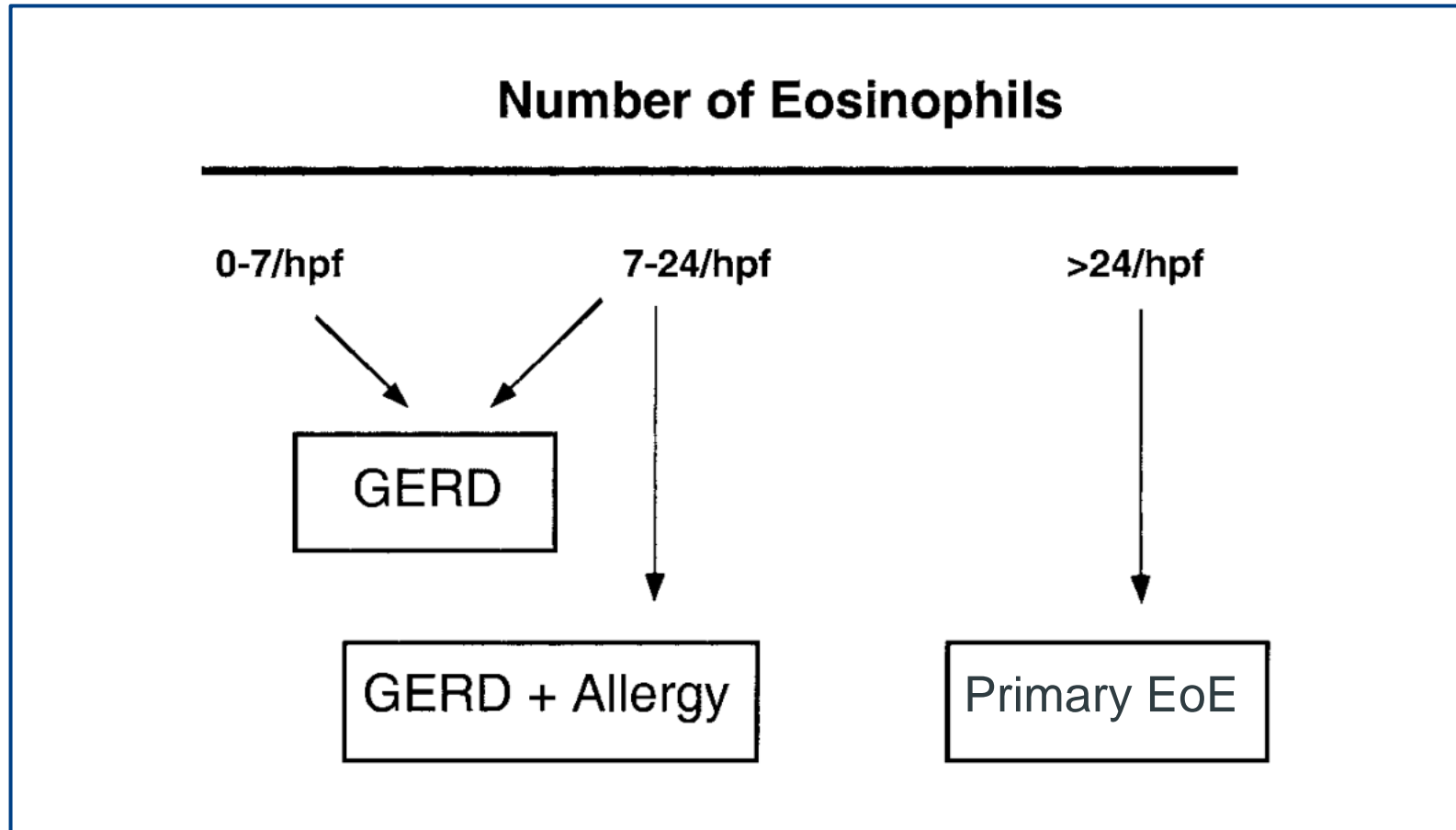


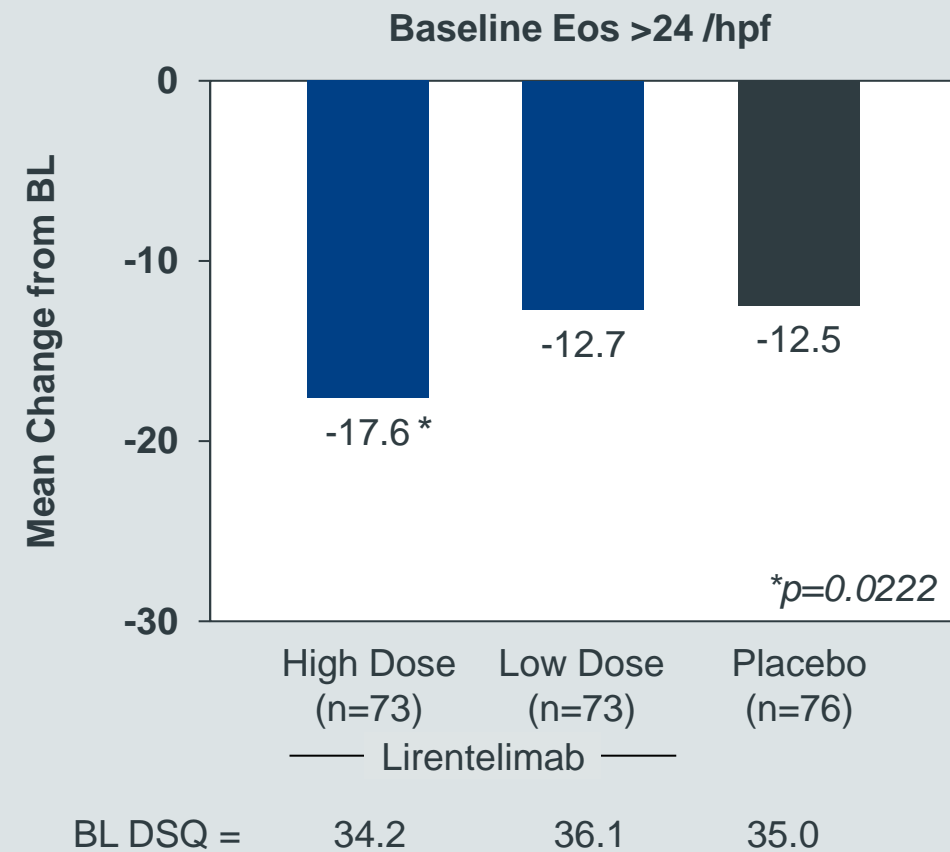
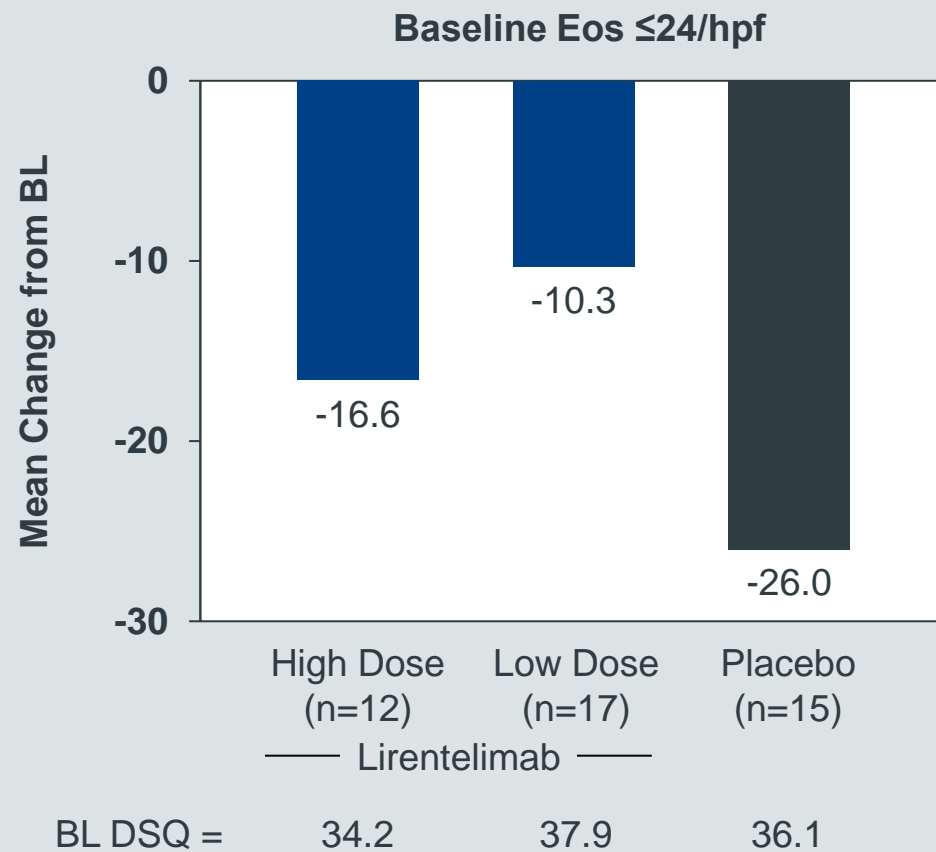
Fig 1. Rothenberg ME. J Allergy Clin Immunol 2001;108:891-4.

Baseline Demographics and Patient Characteristics: By Peak Esophageal Eosinophils

Patient Characteristics	Peak Esophageal Eosinophil Counts ≤24/hpf			Peak Esophageal Eosinophil Counts >24/hpf		
	HD Lirentelimab (n=14)	LD Lirentelimab (n=18)	Placebo (n=16)	HD Lirentelimab (n=77)	LD Lirentelimab (n=75)	Placebo (n=76)
Age, median years (range)	35.5 (15 - 67)	33.5 (15 - 67)	43.5 (20 - 68)	29 (12 - 69)	34 (12 - 67)	30 (12 - 70)
Female sex, % (n)	43% (6)	44% (8)	38% (6)	26% (20)	43% (32)	41% (31)
History of EoE, % (n)	79% (11)	83% (15)	94% (15)	91% (70)	92% (69)	93% (71)
Duration of EoE, median years (range) [mean]	4 (1 - 19) [6.5]	4 (0 - 11) [5.0]	4 (0 - 12) [4.9]	4 (0 - 38) [6.3]	5 (0 - 56) [7.7]	5 (0 - 18) [5.2]
History of proton pump inhibitor use for EoE, % (n)	21% (3)	11% (2)	0%	23% (18)	25% (19)	28% (21)
History of swallowed topical steroid for EoE, % (n)	7% (1)	22% (4)	6% (1)	22% (17)	16% (12)	24% (18)
History of esophageal dilatations, n (%)	14% (2)	17% (3)	6% (1)	3% (2)	4% (3)	8% (6)
Number of prior esophageal dilatations, mean ± SD	3 ± 1	3 ± 1	2 ± 0	2 ± 1	2 ± 1	1 ± 1
History of atopy, % (n)	79% (11)	67% (12)	56% (9)	75% (58)	72% (54)	84% (64)
Peak esophageal eosinophil counts/hpf, mean ± SD	20 ± 3	19 ± 3	20 ± 3	66 ± 31	71 ± 32	67 ± 30
Peak esophageal eos/hpf in distal location, mean ± SD	15 ± 7	17 ± 4	17 ± 7	54 ± 32	59 ± 31	55 ± 29
Peak esophageal eos/hpf in proximal/mid location, mean ± SD	13 ± 9	7 ± 9	10 ± 9	48 ± 29	54 ± 37	46 ± 35
Peripheral blood eosinophils cells/μL, median (IQR)	310 (213 - 430)	175 (143 - 245)	220 (98 - 400)	300 (240 - 470)	300 (210 - 500)	380 (240 - 455)
Serum IgE, kU/L, median (IQR)	83 (33 - 348)	64 (21 - 168)	65 (24 - 140)	105 (54 - 349)	117 (46 - 314)	98 (33 - 255)
Baseline DSQ [0-84], mean ± SD	34 ± 10	38 ± 11	36 ± 10	34 ± 12	36 ± 12	35 ± 13

DSQ Response in Patients by Baseline Peak Eosinophil Count

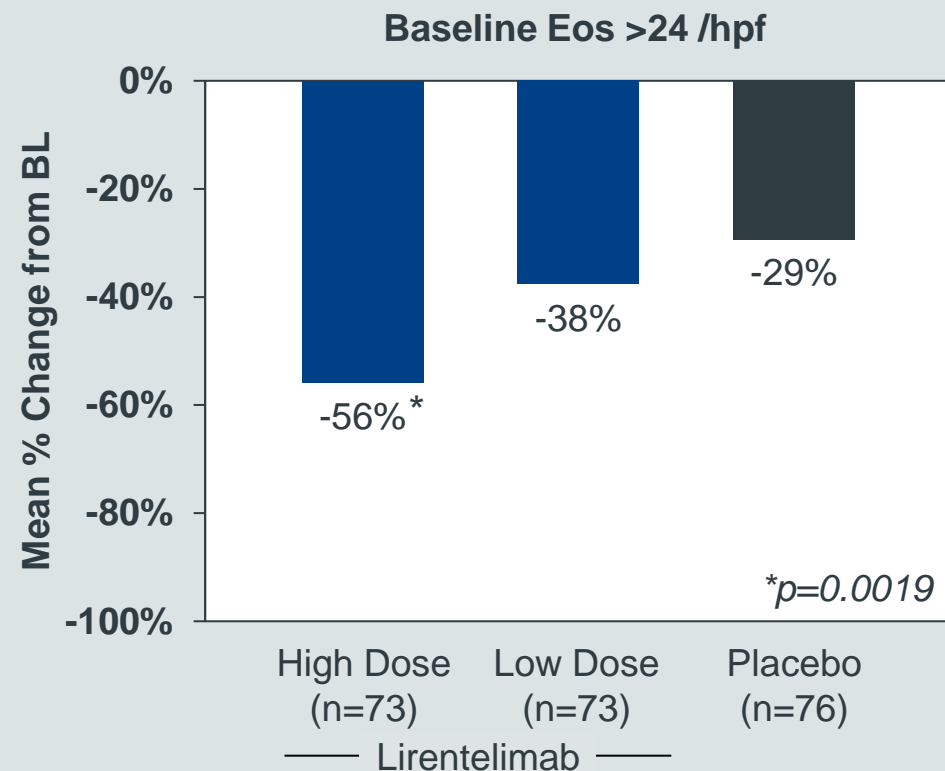
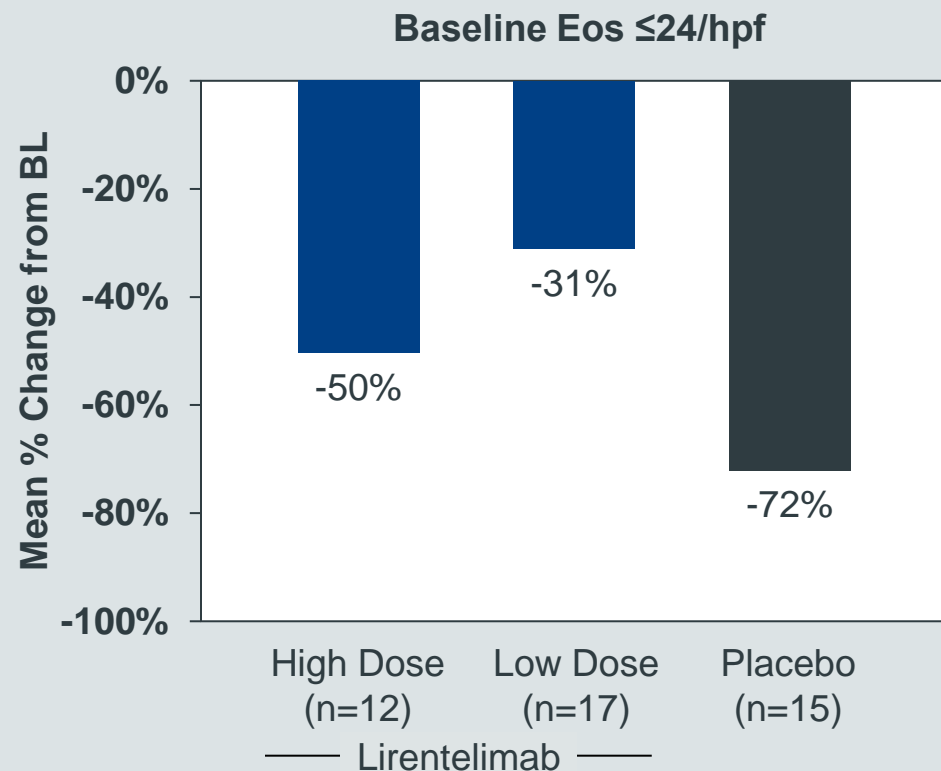
Change in DSQ by Baseline Eosinophil Count Levels at Weeks 23-24



* LS Means and HD lirentelimab from placebo p-values derived from MMRM model

DSQ Response in Patients by Baseline Peak Eosinophil Count

% Change in DSQ by Baseline Peak Esophageal Eos Level at Week 23-24



* LS Means and HD lirentelimab from placebo p-values derived from MMRM model

Study Results in Adolescents

Age 12 - 17 years

Baseline Demographics and Patient Characteristics: Adolescents

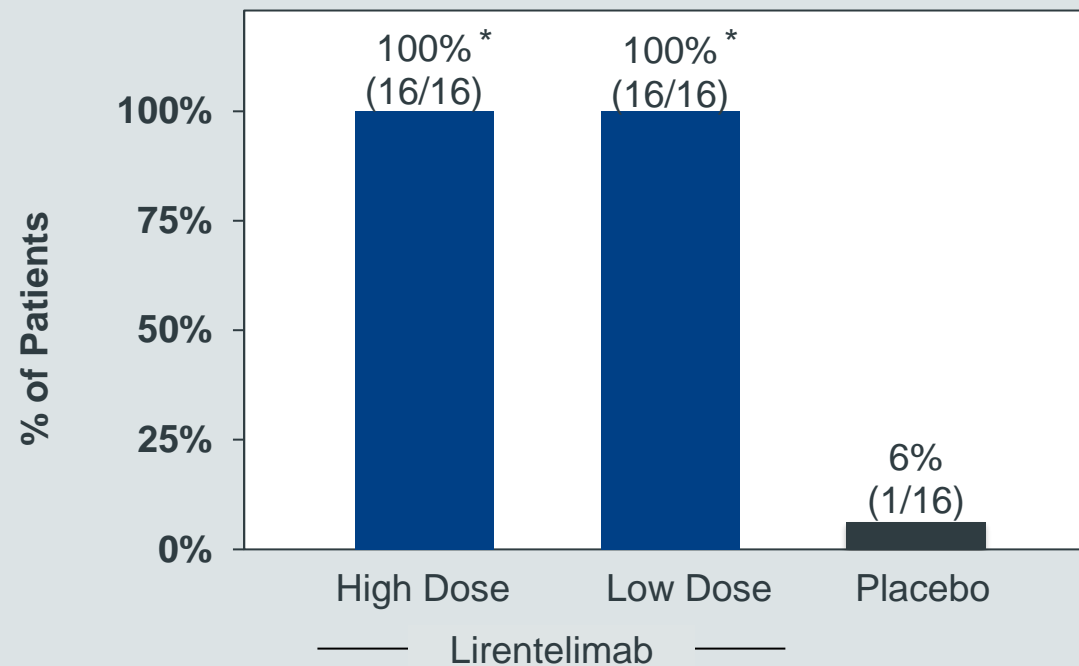
Patient Characteristics	HD Lirentelimab (n=17)	LD Lirentelimab (n=17)	Placebo (n=17)
Age, median years (range)	14 (12 - 17)	15 (12 - 17)	14 (12 - 17)
Female sex, % (n)	12% (2)	29% (5)	24% (4)
History of EoE, % (n)	94% (16)	100% (17)	94% (16)
Duration of EoE, median years (range)	4 (2 - 10)	5 (0 - 13)	6 (1 - 15)
History of proton pump inhibitor use for EoE, % (n)	29% (5)	53% (9)	41% (7)
History of swallowed topical steroid for EoE, % (n)	18% (3)	24% (4)	53% (9)
History of atopy ¹ , % (n)	88% (15)	88% (15)	88% (15)
Peak esophageal eosinophil counts/hpf, mean ± SD	66 ± 32	84 ± 32	55 ± 26
Peak esophageal eos/hpf in distal location, mean ± SD	61 ± 32	69 ± 39	48 ± 25
Peak esophageal eos/hpf in proximal/mid location, mean ± SD	45 ± 31	67 ± 28	33 ± 28
Peripheral blood eosinophils cells/μL, median (IQR)	295 (225 - 400)	625 (285 - 770)	420 (380 - 675)
Serum IgE, kU/L, median (IQR)	237 (140 - 806)	304 (74 - 402)	185 (85 - 374)
Baseline DSQ [0-84], mean ± SD	35 ± 14	35 ± 13	34 ± 12

¹ Asthma, allergic rhinitis, atopic dermatitis and/or food allergy

Histologic Response in Adolescents

Proportion of Eosinophil Responders in Adolescents¹

Achieved Peak Esophageal Eos ≤ 6 Eos/hpf at Week 24

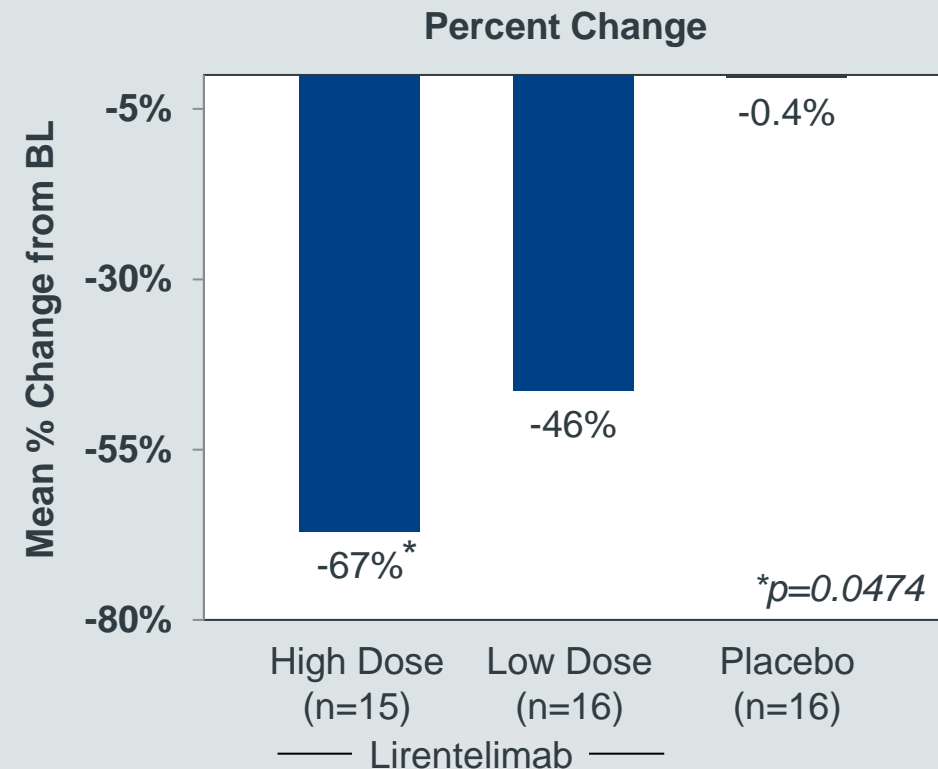
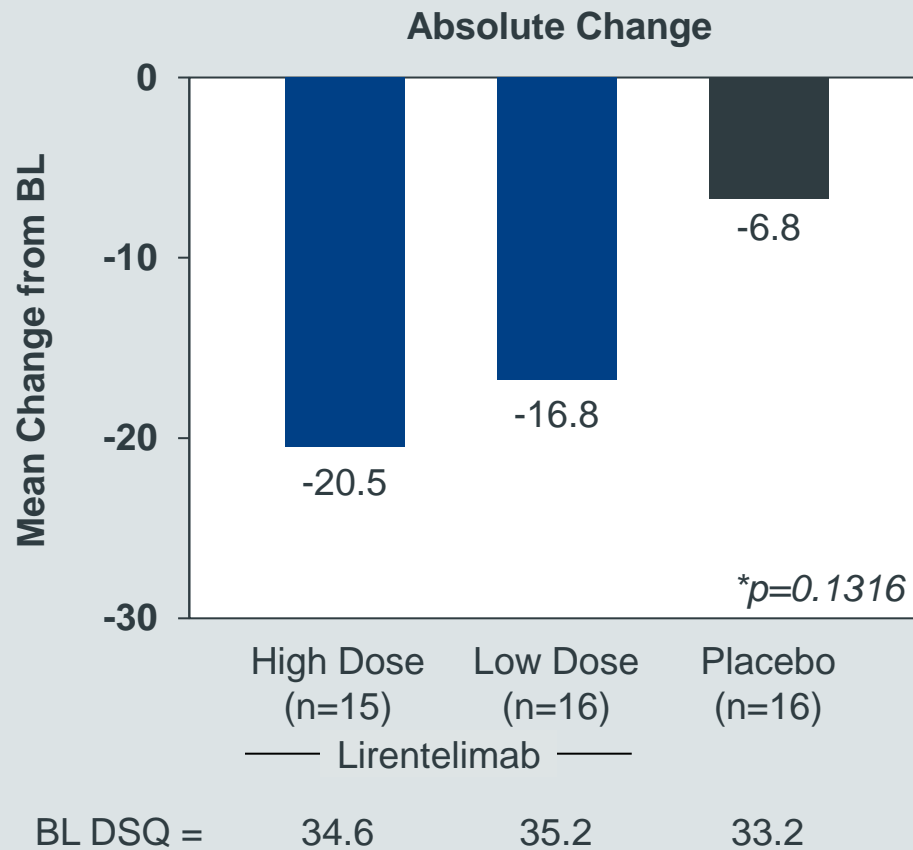


* Difference from placebo p-values < 0.0001 derived using Fisher's Exact Test

¹ Observed data

DSQ Response in Adolescents

Change in DSQ¹ at Weeks 23-24 in Adolescents



* LS Means and HD lirontelimab from placebo p-values derived from ANCOVA model

¹ Observed data

Safety Summary

KRYPTOS Safety Summary

Treatment-Emergent AEs in ≥5% of Patients

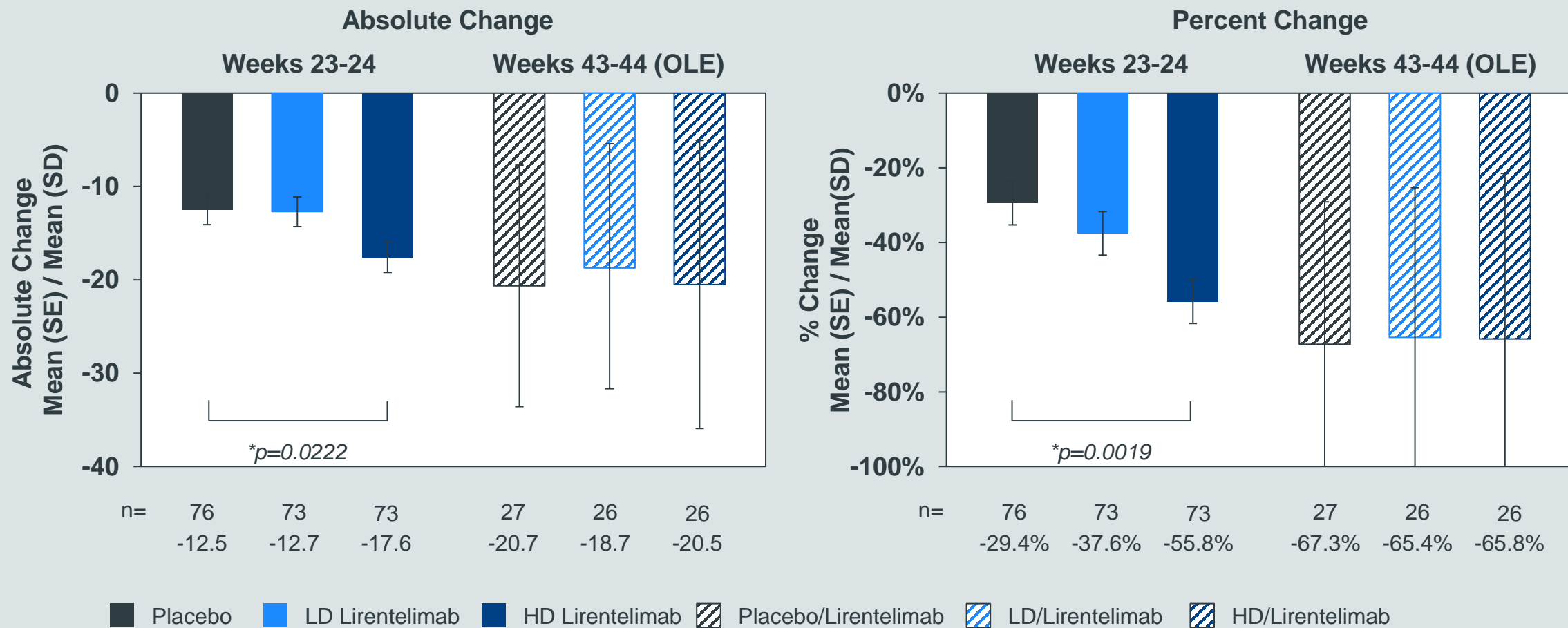
n (%) of Patients	HD Lirentelimab (n=91)	LD Lirentelimab (n=93)	Placebo (n=92)
≥1 Treatment-Emergent Adverse Event (TEAE)	61 (67.0%)	65 (69.9%)	53 (57.6%)
Infusion related reaction	35 (38.5%)	24 (25.8%)	11 (12.0%)
Headache	6 (6.6%)	8 (8.6%)	6 (6.5%)

- Drug-related Serious AEs: 2 patients on HD lirentelimab, 1 patient on Placebo
- Safety risk profile overall was consistent with previously reported safety profile in ENIGMA1 and other lirentelimab studies to date

Open-Label Extension

Durability of Effect in Open-Label Extension

Change in DSQ from Baseline: Patients with BL Esophageal Eos >24/hpf



* LS Means and p-values derived from MMRM model

Baseline DSQ Score, mean \pm SD Placebo: 35.0 \pm 12.5; LD Lirontelimab: 36.1 \pm 12.3; HD Lirontelimab: 34.2 \pm 12.2

Summary & Conclusions

- KRYPTOS Phase 2/3 study included patients with questionable EoE diagnosis
- Clear activity observed in moderate-to-severe EoE patients
- Clear activity in adolescents
- Durability of effect observed in interim analysis of open-label extension
- Lirentelimab was well-tolerated in both adults and adolescents with EoE

Review of ENIGMA2 Phase 3 EG/EoD Study

ENIGMA2 Phase 3 EG/EoD Study Design

Study Design

- Multi-center, randomized, DB, placebo-controlled
- Active moderate to severe symptoms
- Biopsy confirmed EG and/or EoD
 - Stomach: ≥ 30 eos/high powered field (hpf) in 5 hpfs
 - Duodenum: ≥ 30 eos/hpf in 3 hpfs
- 180 adult patients (1:1 randomization)
 - Lirentelimab 1 + 3 + 3 + 3 + 3 + 3 mg/kg (n = 91)
 - Placebo (n = 89)
- 6 monthly doses
- Open-label extension

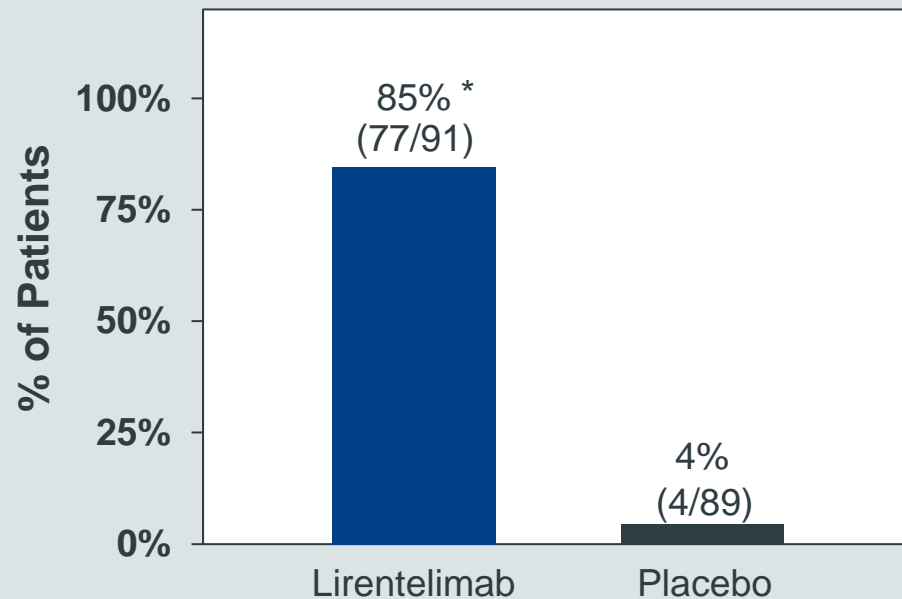
Endpoints

- **Histologic Co-Primary Endpoint**
 - Proportion of tissue histologic responders:
 - Stomach: ≤ 4 eos/hpf in 5 hpfs, and/or
 - Duodenum: ≤ 15 eos/hpf in 3 hpfs
- **Symptom Co-Primary Endpoint**
 - Absolute change in patient reported TSS-6
- **Key Secondary Endpoints**
 - Percent change in TSS-6 from baseline
 - Proportion of patients achieving $\geq 50\%$ and $\geq 70\%$ improvement in TSS-6

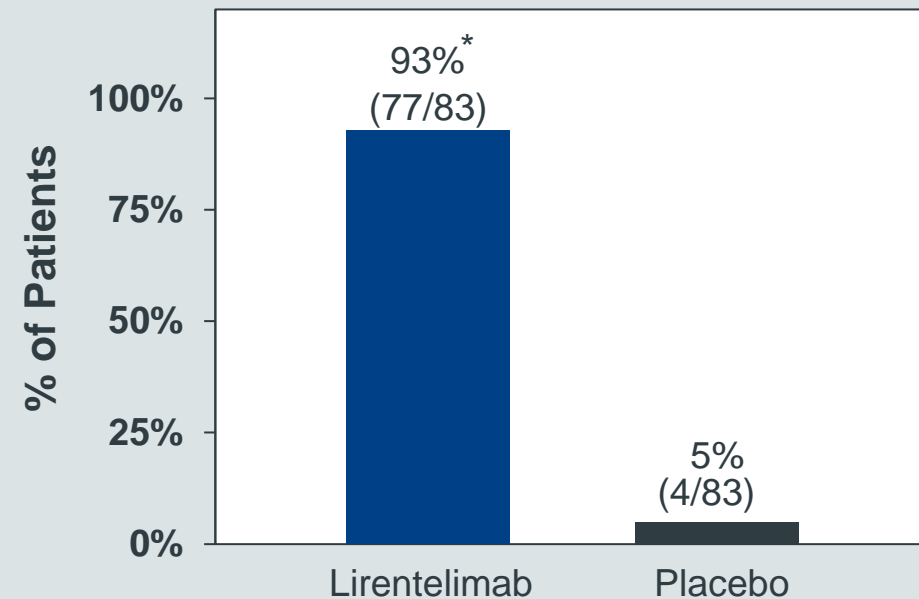
Histology Co-Primary Endpoint: Eosinophil Responders

Proportion of Patients Achieving EG/EoD Histologic Response¹ at Week 24

Primary Analysis²



Analysis with Observed Data



98% mean reduction of eosinophils on lirentelimab vs 24% in the placebo group

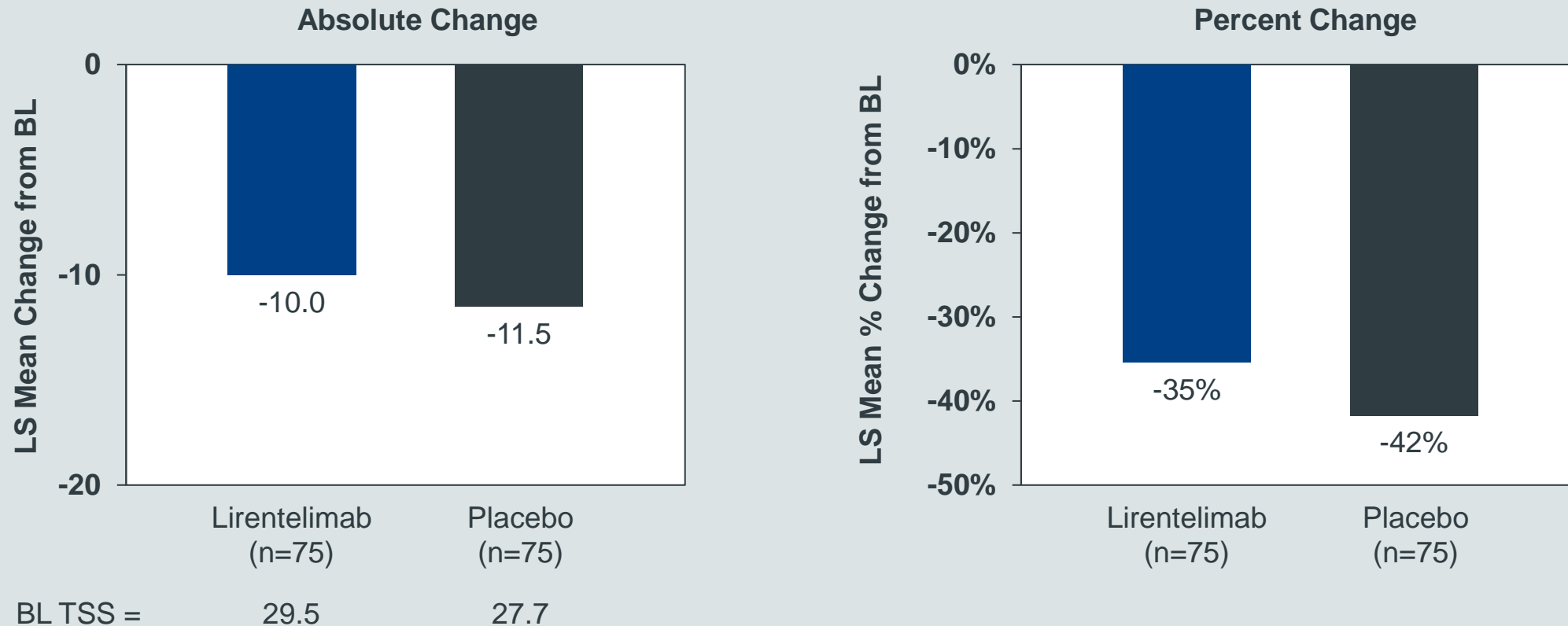
* Difference from placebo p-values <0.0001 derived using Fisher's Exact Test

¹ Eosinophil response criteria: ≤ 4 eos/hpf in top 5 gastric hpfs and/or ≤ 15 eos/hpf in top 3 duodenal hpfs

² ITT: Missing data was treated as non-responders

Symptom Co-Primary Endpoint: TSS6

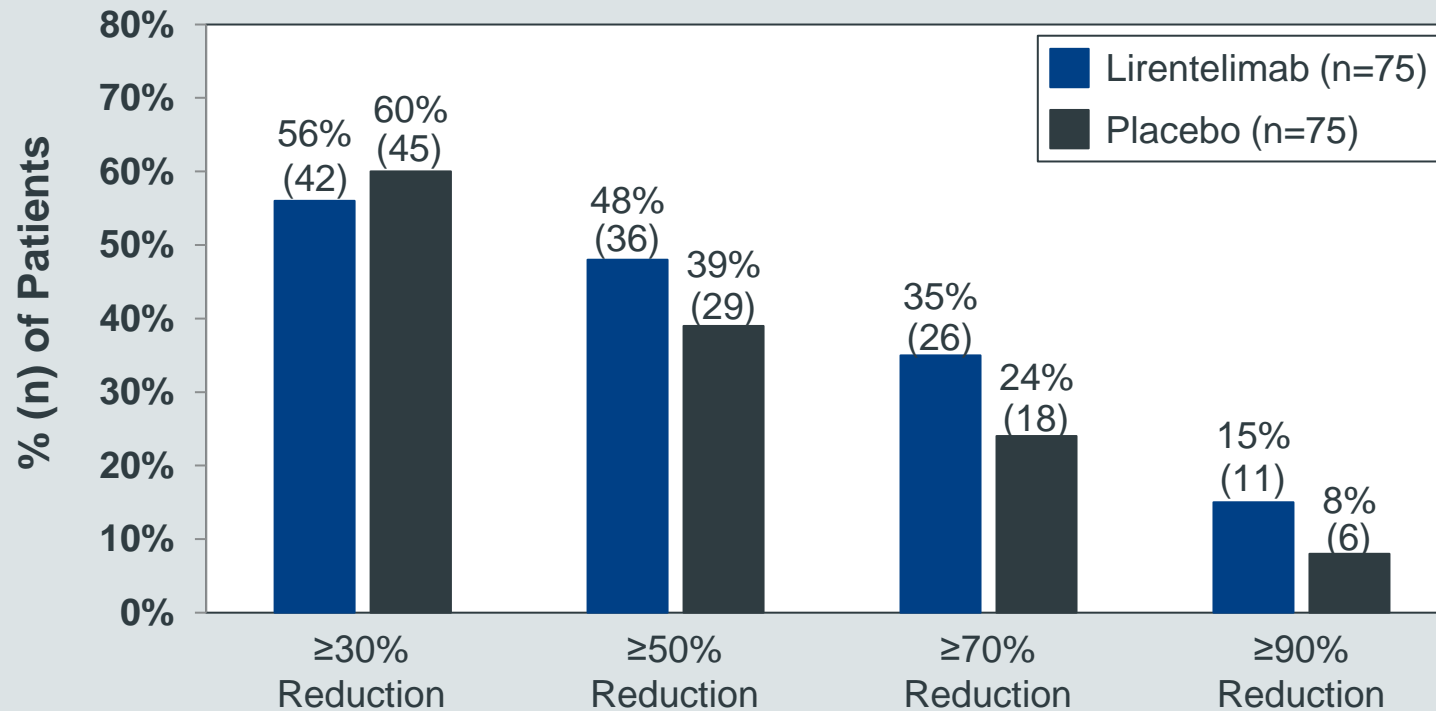
Change in Total Symptom Score¹



¹ TSS6 Symptoms: abdominal pain, nausea, early satiety, loss of appetite, bloating, abdominal cramping

Responder Analysis Suggests Clinical Activity

Secondary Endpoint: Proportion of Patients Achieving TSS Thresholds at Weeks 23-24¹



¹ Observed data

Baseline Demographics & Patient Characteristics: ENIGMA1 and ENIGMA2

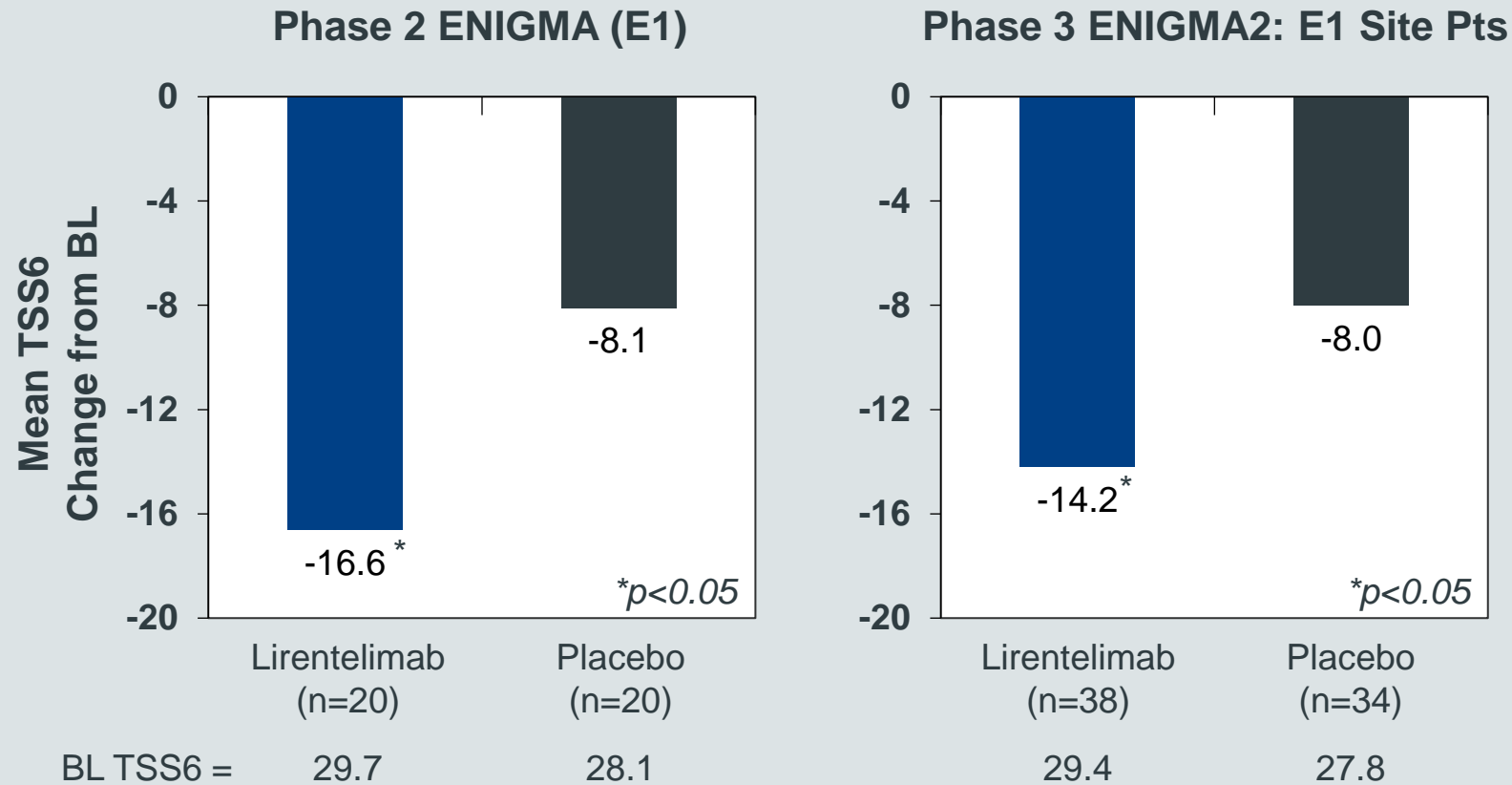
Patient Characteristics	Ph2 ENIGMA1 (E1)	Ph3 ENIGMA2	
	n=65	AK002 n=91	Placebo n=89
Age, median years (range)	40 (18-74)	43 (17-77)	41 (18-78)
Female sex, % (n)	62% (40)	62% (56)	69% (61)
History of EoE, % (n)	54% (35)	23% (21)	24% (21)
History of EG or EoD, % (n)	80% (52)	32% (29)	29% (26)
History of IBS, % (n)	3% (2)	40% (36)	37% (33)
History and background corticosteroid use, % (n)	42% (27)	41% (37)	31% (28)
Baseline use of physician prescribed diet regimen, % (n)	17% (11)	8% (7)	10% (9)
Gastric/duodenal eos/hpf in top 5/3 hpfs, mean \pm SD	84 \pm 52	65 \pm 51	52 \pm 25
Screening blood eos cells/μL, median (IQR)	330 (160-720)	200 (133-463)	230 (113-340)
Screening IgE kU/L, median (IQR)	141 (44-361)	59 (18-167)	61 (25-165)
Baseline Total Symptom Score (TSS) [0-60], mean \pm SD	28 \pm 12	29 \pm 11	28 \pm 11

Baseline Demographics & Patient Characteristics: Site Comparison

Patient Characteristics	Ph2 ENIGMA1 (E1)	Ph3 ENIGMA2	
	n=65	E1 Sites n=81	Non-E1 Sites n=99
Age, median years (range)	40 (18-74)	45 (18-77)	40 (17-78)
Female sex, % (n)	62% (40)	59% (48)	70% (69)
History of EoE, % (n)	54% (35)	27% (22)	20% (20)
History of EG or EoD, % (n)	80% (52)	47% (38)	17% (17)
History of IBS, % (n)	3% (2)	31% (25)	44% (44)
History and background corticosteroid use, % (n)	42% (27)	43% (35)	30% (30)
Baseline use of physician prescribed diet regimen, % (n)	17% (11)	14% (11)	5% (5)
Gastric/duodenal eos/hpf in top 5/3 hpfs, mean \pm SD	84 \pm 52	70 \pm 53	50 \pm 25
Screening blood eos cells/μL, median (IQR)	330 (160-720)	250 (170-665)	180 (110-290)
Screening IgE kU/L, median (IQR)	141 (44-361)	72 (29-166)	58 (17-165)
Baseline Total Symptom Score (TSS) [0-60], mean \pm SD	28 \pm 12	29 \pm 12	29 \pm 11

Consistent Effects Observed in ENIGMA1 Site Patients

Mean Change in TSS6 from Baseline at End of Treatment¹



* LS Means and p-values derived from ANCOVA/MMRM models

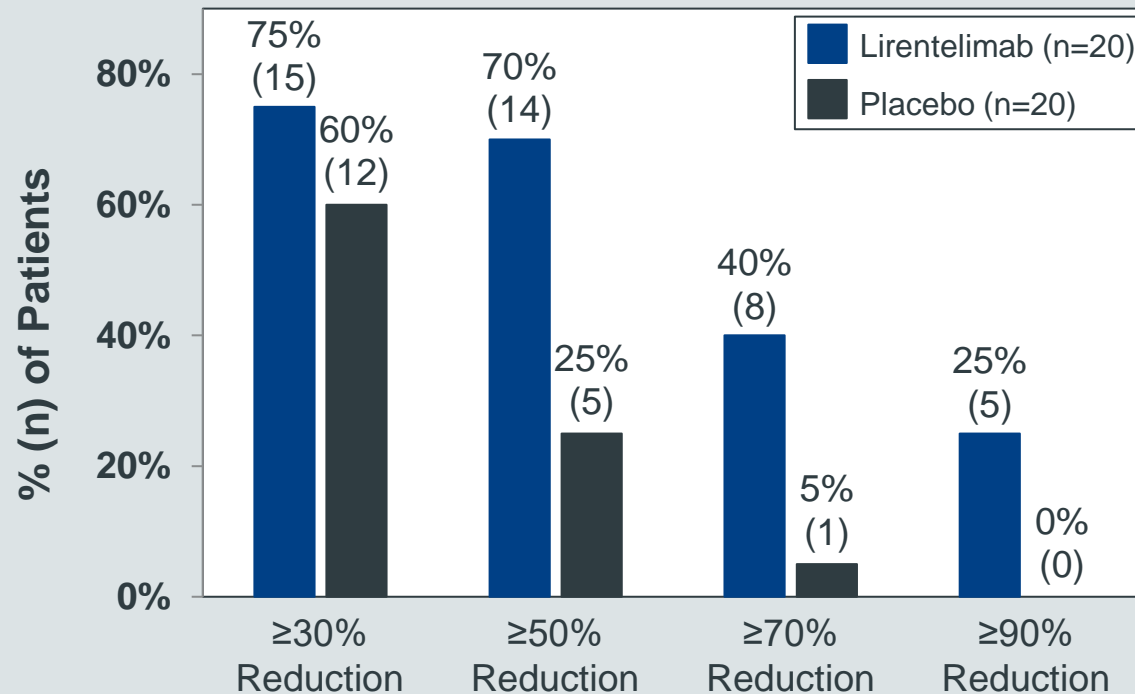
¹ ENIGMA1: mean TSS6 change from BL to Weeks 13-14;

ENIGMA2: mean TSS6 change from BL to Weeks 23-24

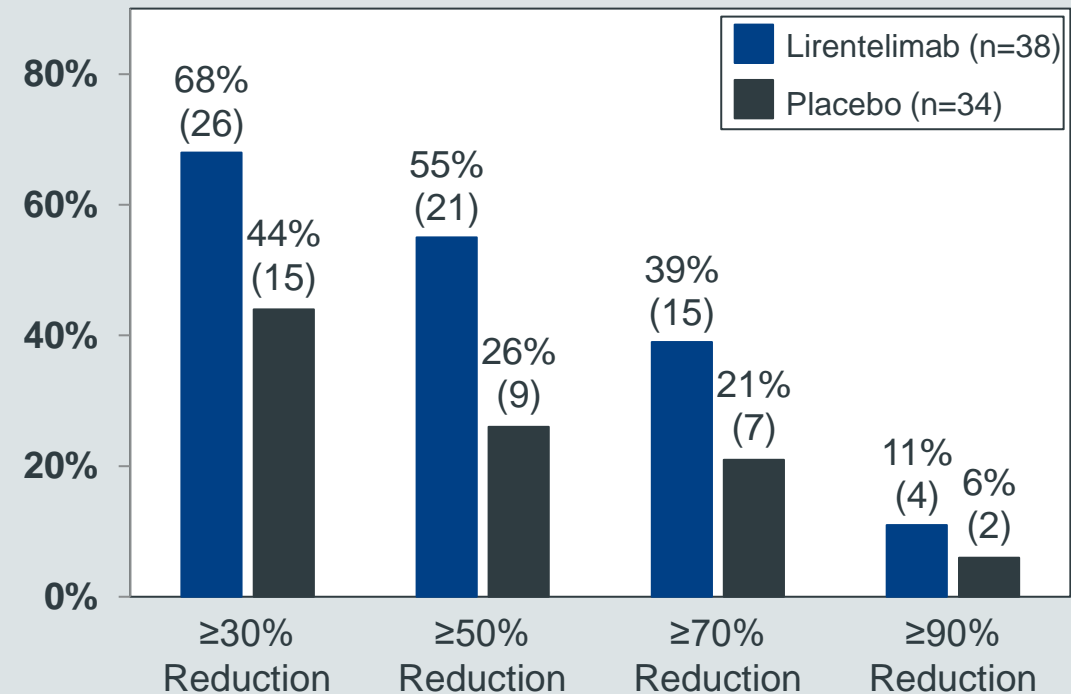
Similar Results Seen in ENIGMA1 Site Patients

Proportion of Patients Achieving TSS6 Thresholds at End of Treatment¹

Phase 2 ENIGMA (E1)



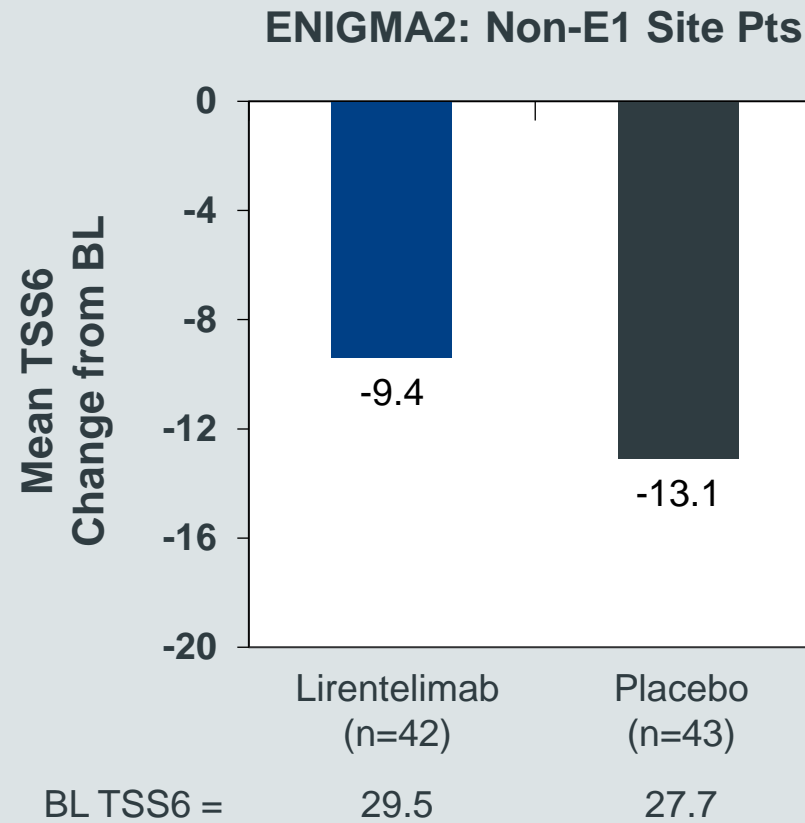
Phase 3 ENIGMA2: E1 Site Pts



¹ ENIGMA1 end of treatment: Weeks 13-14
ENIGMA2 end of treatment: Weeks 23-24

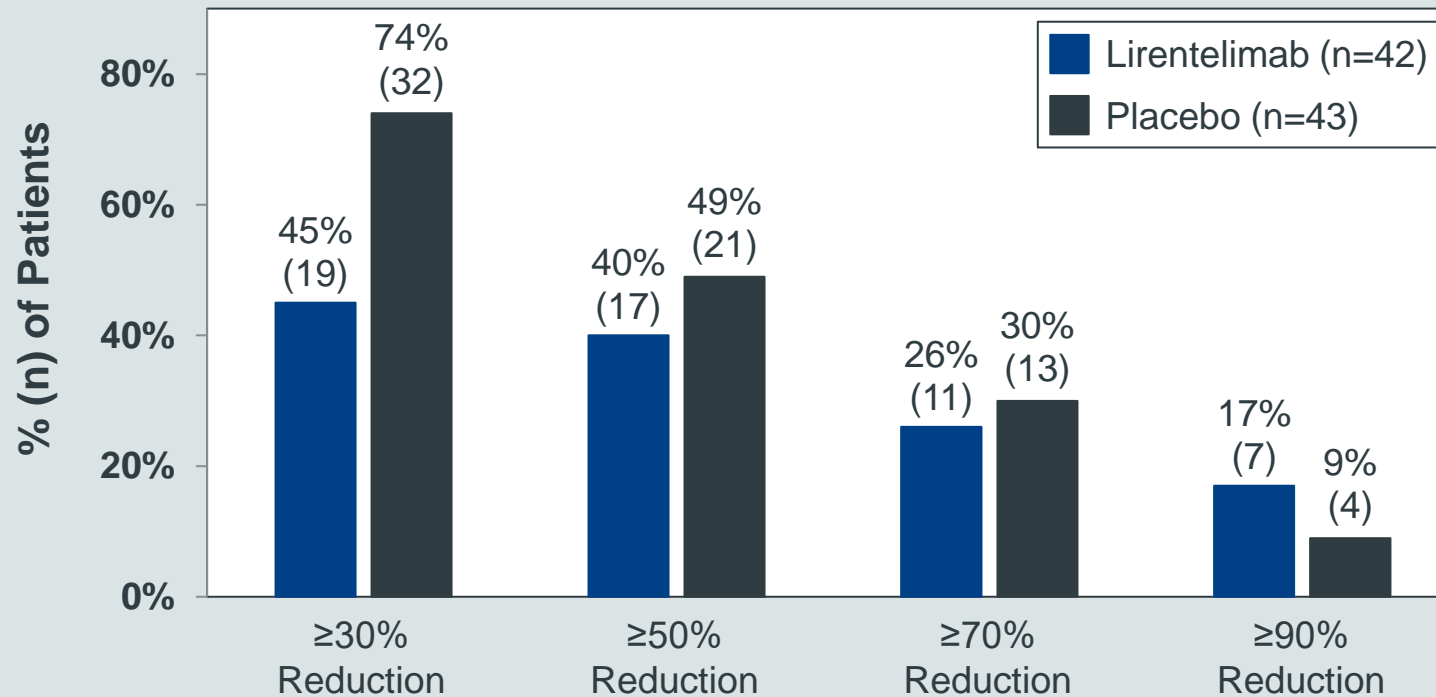
ENIGMA2: Non-ENIGMA1 Site Patients

Mean Change in TSS6 from Baseline at End of Treatment



ENIGMA2: Non-ENIGMA1 Site Patients

Proportion of Patients Achieving TSS6 Thresholds at Weeks 23-24: Non-E1 Site Pts



Safety Summary

ENIGMA2 Safety Summary

Treatment-Emergent AEs in $\geq 5\%$ of Patients

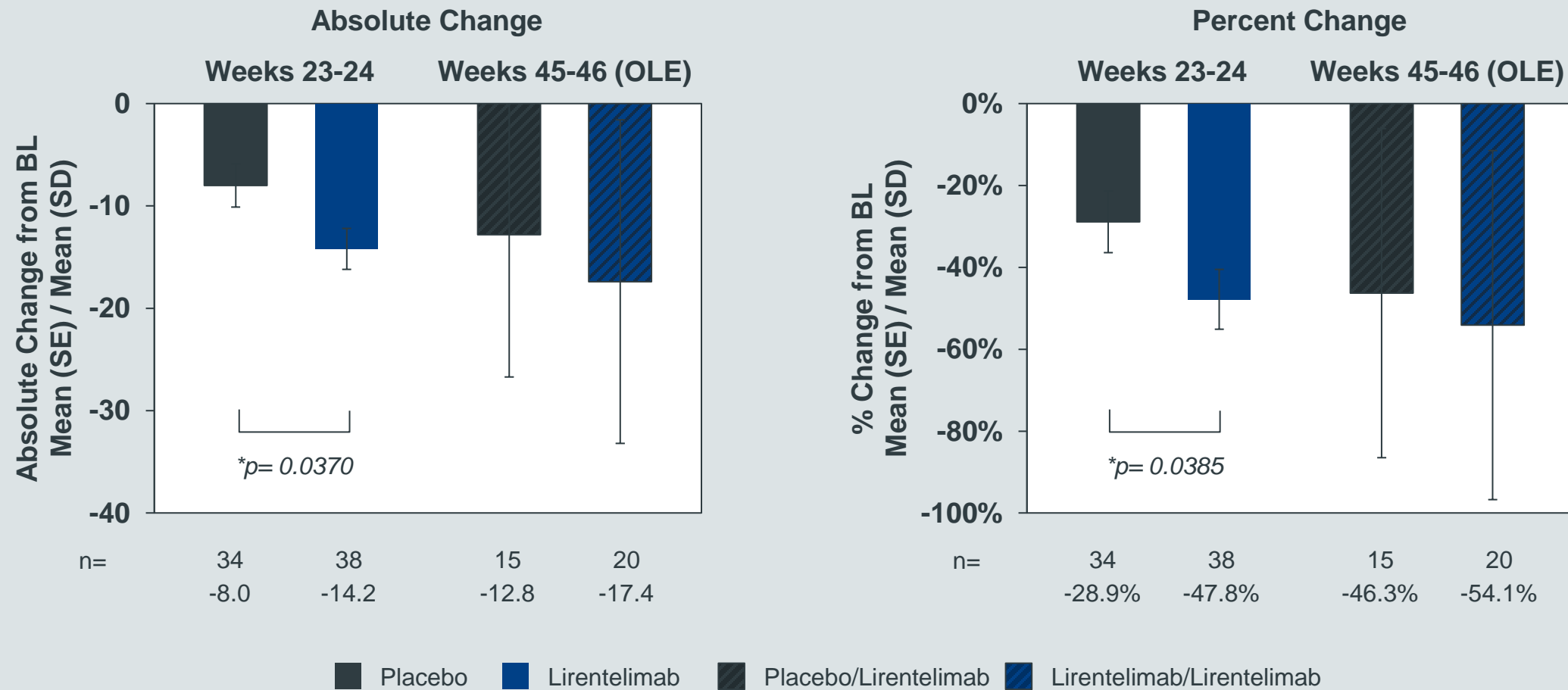
n (%) of Patients	Lirentelimab (n=91)	Placebo (n=89)
≥ 1 Treatment-Emergent Adverse Event (TEAE)	65 (71.4%)	57 (64.0%)
Infusion related reaction	31 (34.1%)	12 (13.5%)
Fatigue	5 (5.5%)	1 (1.1%)

- No drug-related Serious AEs
- Safety risk profile overall was consistent with previously reported safety profile in ENIGMA1 and other lirentelimab studies to date

Open Label Extension

Durability of Effect in Open-Label Extension (E1 Site Patients)

Change in TSS6 from Baseline: E1 Site Patients



* LS Means and p-values derived from MMRM model

Baseline TSS6 Score, mean \pm SD Placebo: 27.8 \pm 12.1; Lirentelimab: 29.4 \pm 11.4

Summary of ENIGMA2

- ENIGMA2 patients with similar characteristics to those included in Phase 2 reproduced original study results
- Key patient characteristics identified include:
 - Higher tissue eos counts
 - Higher peripheral blood eos counts
 - Higher IgE levels
- Durability of effect observed in interim analysis of open-label extension
- Lirentelimab was well-tolerated in patients with EG and/or EoD

Phase 3 EoD Study

EoD Phase 3 Study Design

Study Design

- Multi-center, randomized, double-blind, placebo-controlled study in EoD
- Active moderate to severe symptoms
- Biopsy confirmed EoD \pm colonic involvement
 - Duodenum: ≥ 30 eos/hpf in 3 hpfs
 - Stomach: < 30 eos/high powered field (hpf) in 5 hpfs (Do NOT have EG)
 - Colonic involvement assessed by colonoscopy: biopsies collected from terminal ileum, colon (ascending, transverse, descending, sigmoid) and rectum
- 93 adult patients – 2 arms
 - 3.0, 3.0, 3.0, 3.0, 3.0, 3.0 mg/kg lirentelimab
 - Placebo
- 6 monthly i.v. doses

Endpoints

- **Histologic Co-Primary Endpoint**
 - Proportion of responders:
 - Duodenum: ≤ 15 eos/hpf in 3 hpfs
- **Symptom Co-Primary Endpoint**
 - Absolute change in patient reported TSS-6
- **Key Secondary Endpoints**
 - Percent change in tissue eosinophil counts
 - Treatment responders: patients who achieve tissue eosinophil thresholds AND $> 30\%$ improvement in TSS
 - Exploratory: change in colonic eosinophil counts

Phase 3 EoD Study Update

- Fully enrolled (N=93)
- Study will complete mid-2022
- Population enrolled is similar to ENIGMA2 population
- Data from EoD study will inform correspondence with the FDA

Next Steps in EGIDs

- EoE
 - End of Phase 2 meeting
 - Update market post FDA meeting
- EG/EoD
 - Await and incorporate 021 EoD study data
 - Plan to meet with FDA to discuss data and findings
 - Update the market post the FDA meeting

Professor Evan S. Dellon, MD MPH

TITLE: Professor of Medicine, Gastroenterology & Epidemiology
Director, Center for Esophageal Diseases and Swallowing
Director, CGIBD Biostatistics and Clinical Research Core

INSTITUTION: University of North Carolina School of Medicine

SPECIALTY: Gastroenterology

FOCUS: Epidemiology, pathogenesis, diagnosis, treatment, and outcomes of
Eosinophilic Gastrointestinal Disorders



- Investigator and member of NIH-funded Consortium of Eosinophilic Gastrointestinal Disease Researchers (CEGIR)
- Editorial Board: Clinical Gastroenterology and Hepatology
- Author/Co-Author: >300 peer-reviewed publications
- Investigator for multiple EGID studies including EoE

Lirentelimab for Inflammatory Skin Diseases

Robert Alexander, PhD
CEO

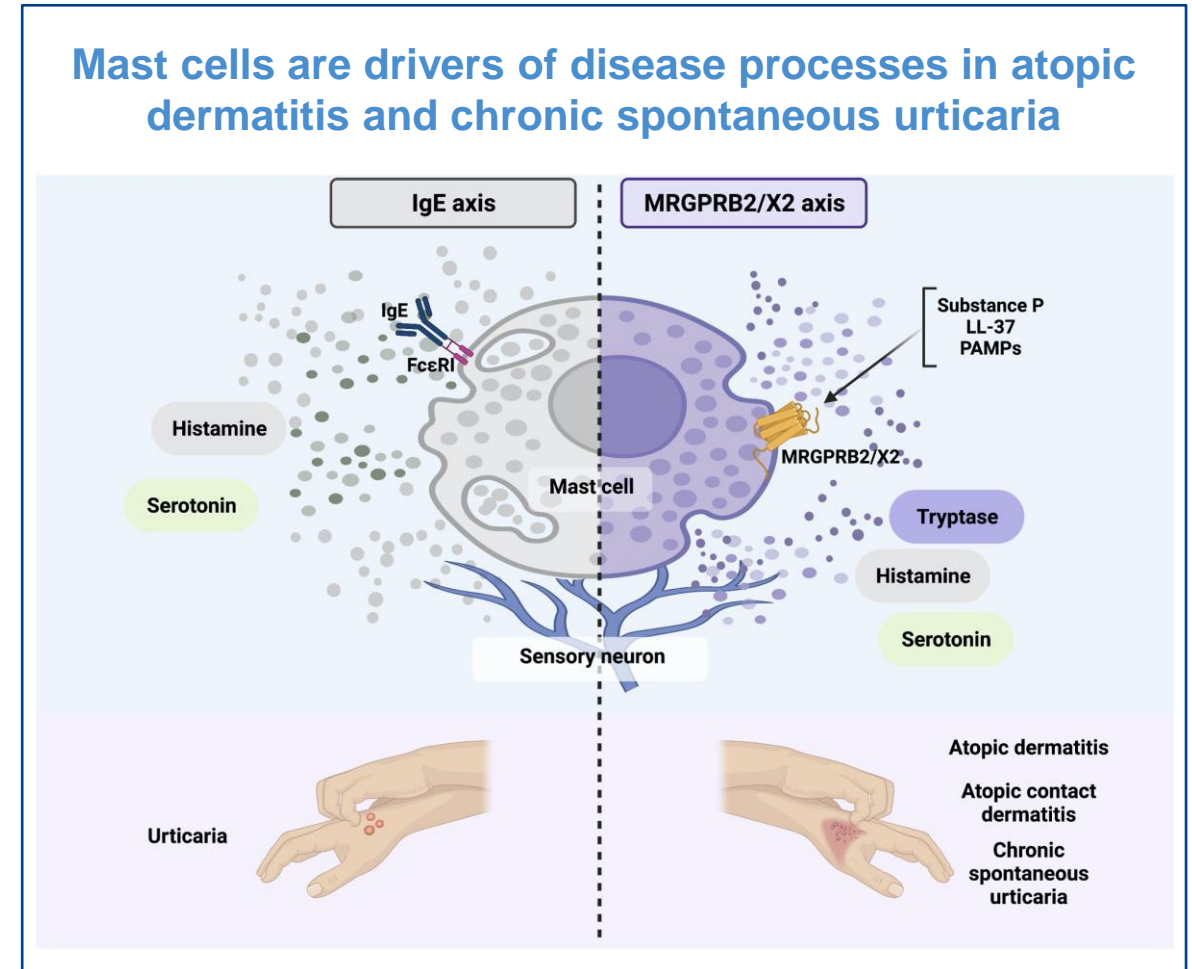
Strong Scientific Rationale for Targeting Mast Cells and Eosinophils in Chronic Inflammatory Skin Diseases

Atopic dermatitis (AD) and chronic spontaneous urticaria (CSU) are characterized by inflamed itchy skin

Crosstalk between eosinophils, mast cells, and sensory neurons has been shown to drive inflammation and chronic itch in AD and CSU via IgE, IL-4, IL-13, IL-33, and MRGPRX2

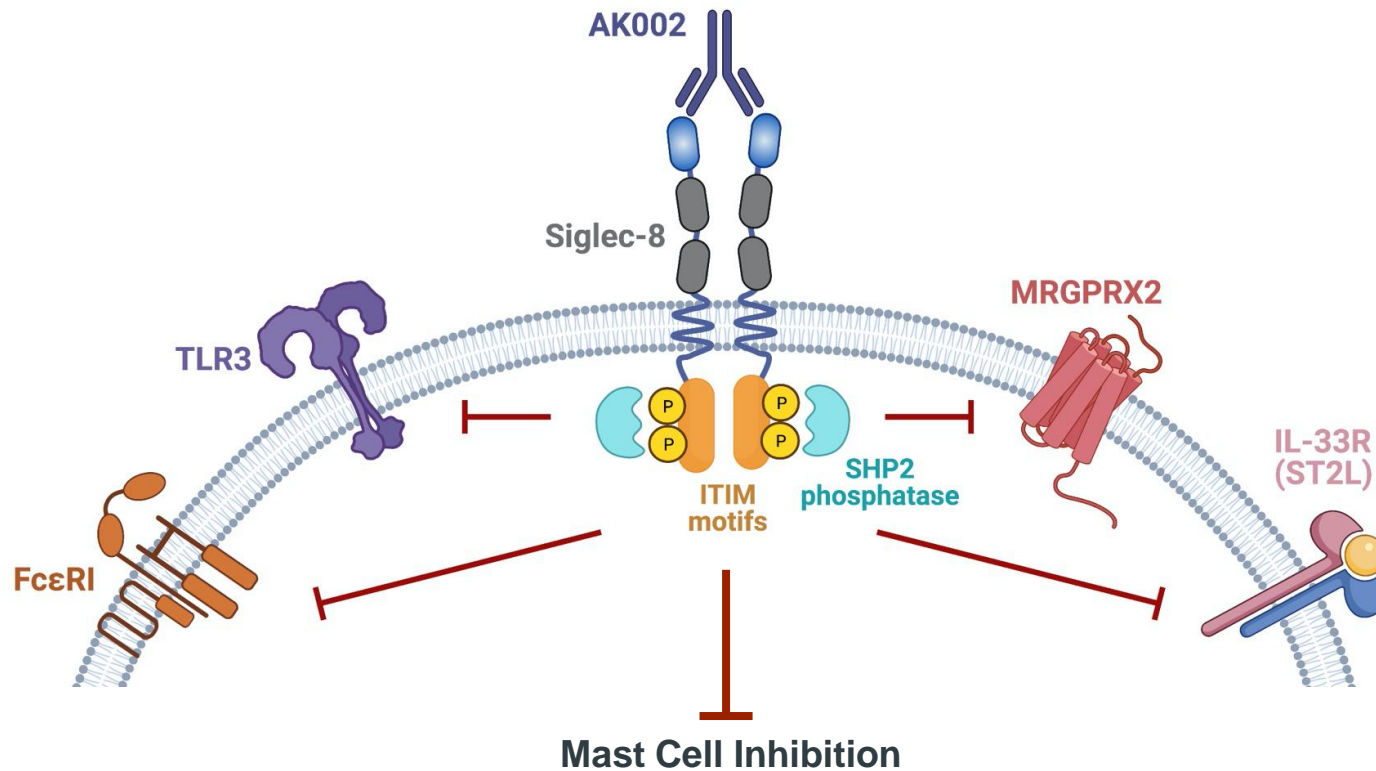
Eosinophils and mast cells are found in lesional skin in atopic dermatitis and chronic urticaria

Improvements observed in patients with concomitant atopic dermatitis and chronic urticaria in liletelimab studies



AK002 Mast Cell Inhibition

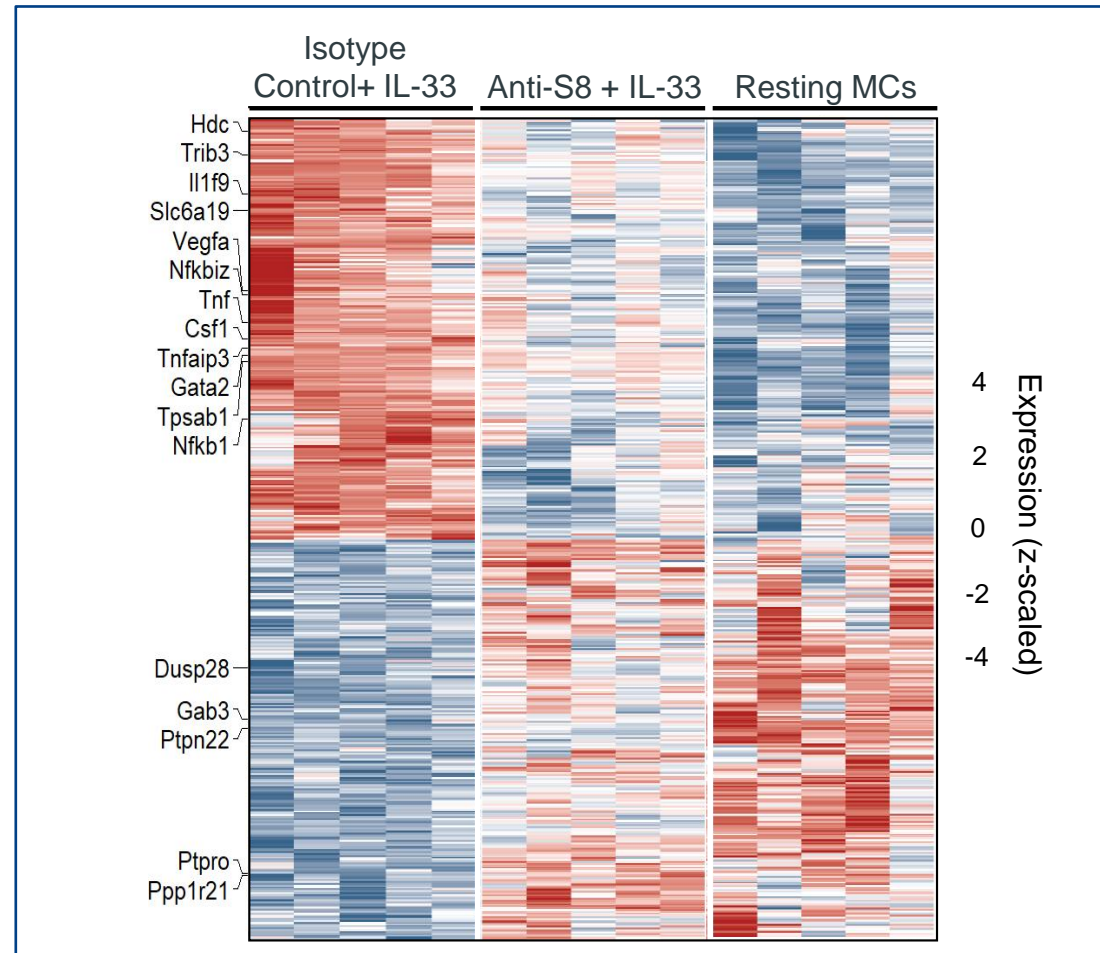
Lirentelimab Broadly Inhibits Mast Cell Activation



Lirentelimab targets multiple disease-driving pathways through mast cell inhibition

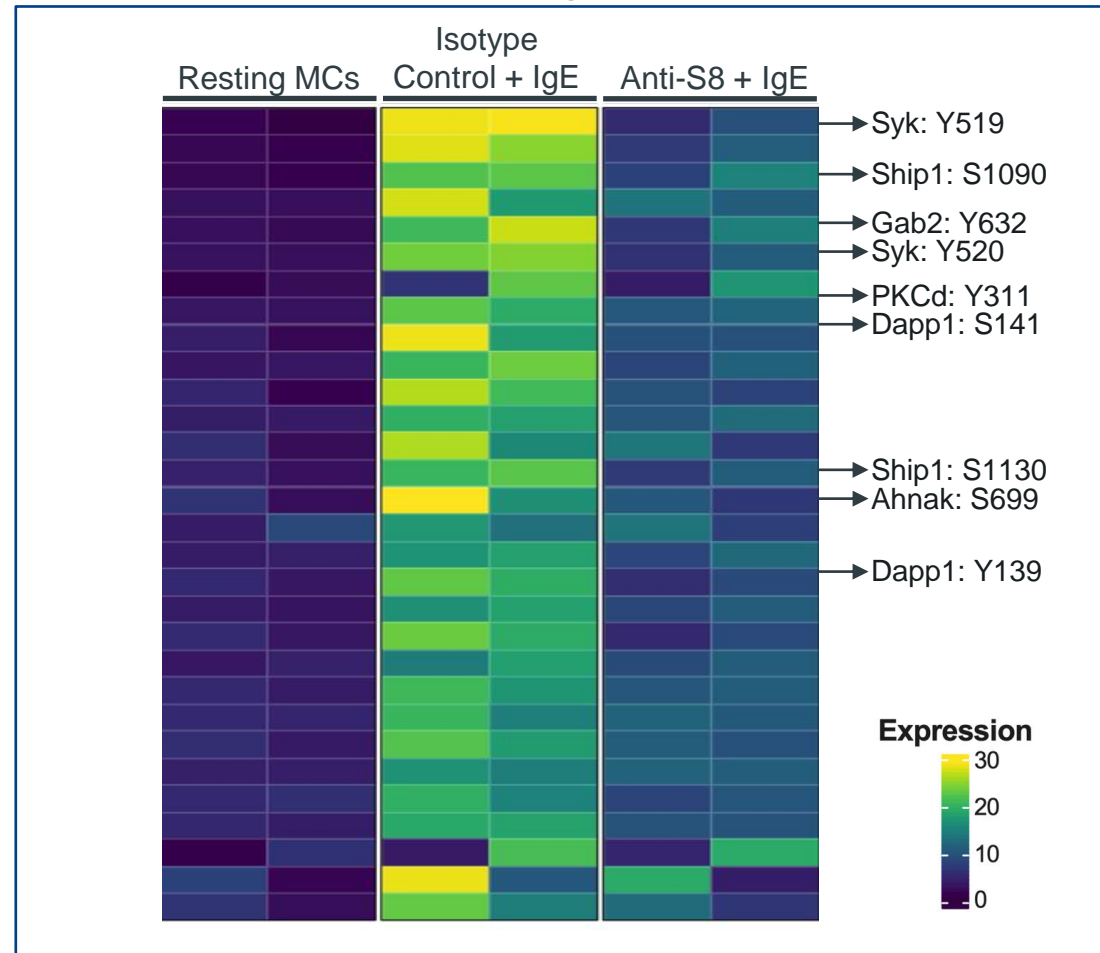
Lirentelimab Inhibits IL-33-Mediated Mast Cell Activation

Transcriptome of IL-33-Activated Mast Cells



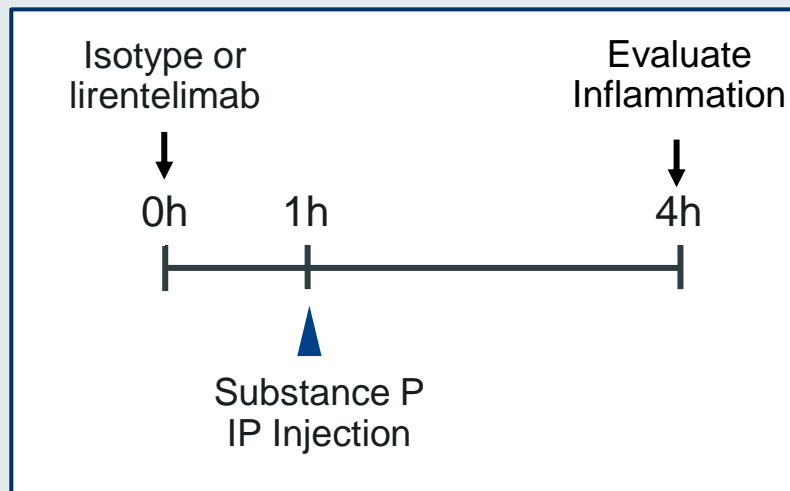
Lirentelimab Inhibits IgE-Mediated Mast Cell Activation

Phospho-Proteome of IgE-Activated Mast Cells

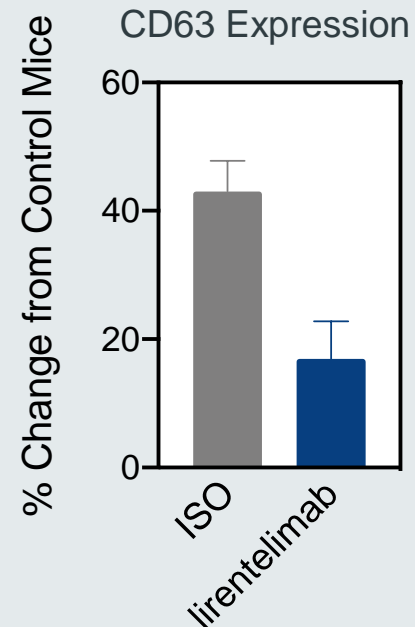


Lirentelimab Inhibits MRGPRX2-Mediated Mast Cell Activation

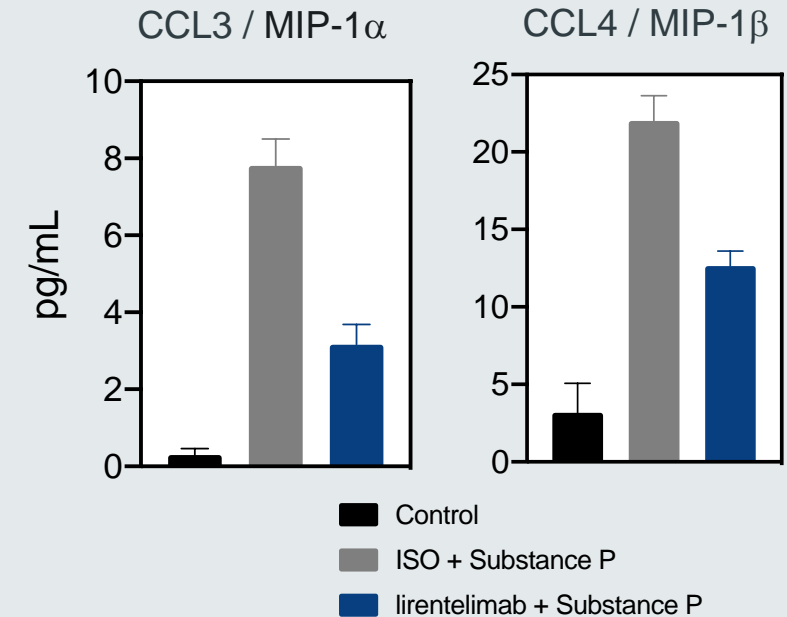
Mouse Model of MRGPRX2-mediated Inflammation



Mast Cell Activation

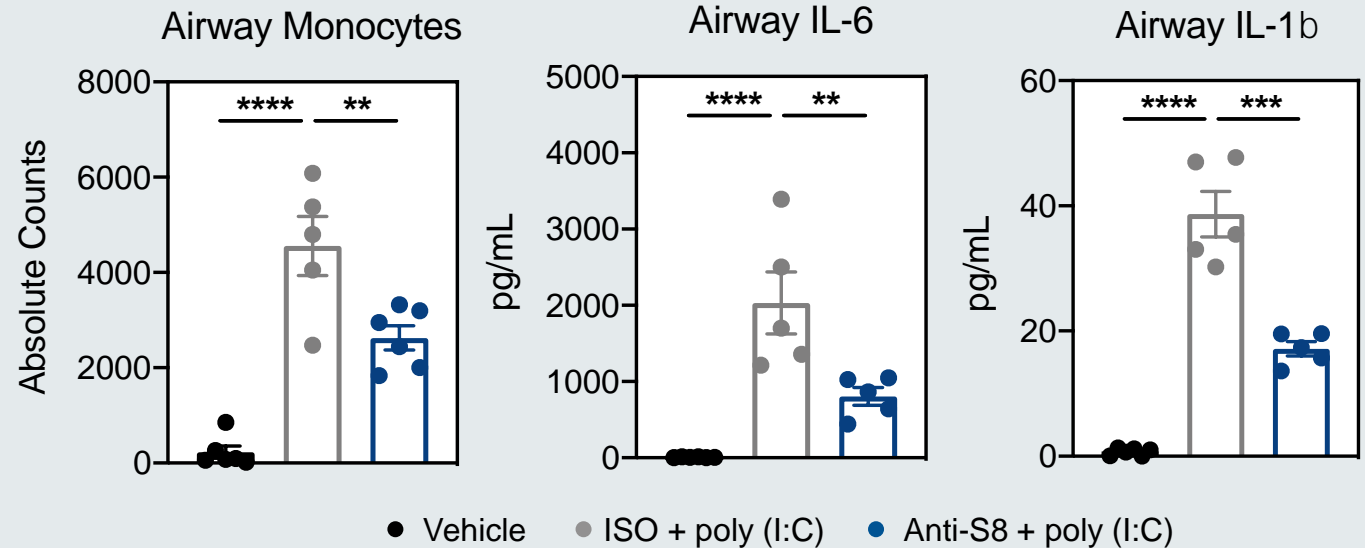
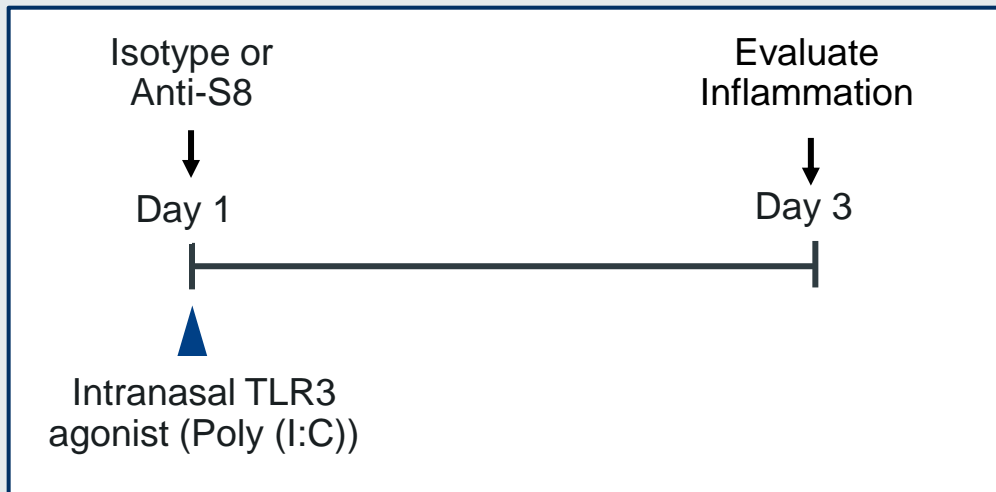


Mast Cell-Derived Inflammatory Cytokines



Lirentelimab inhibits key driver of mast cell activation in chronic disease

Lirentelimab Reduces TLR-mediated Inflammation *In Vivo*

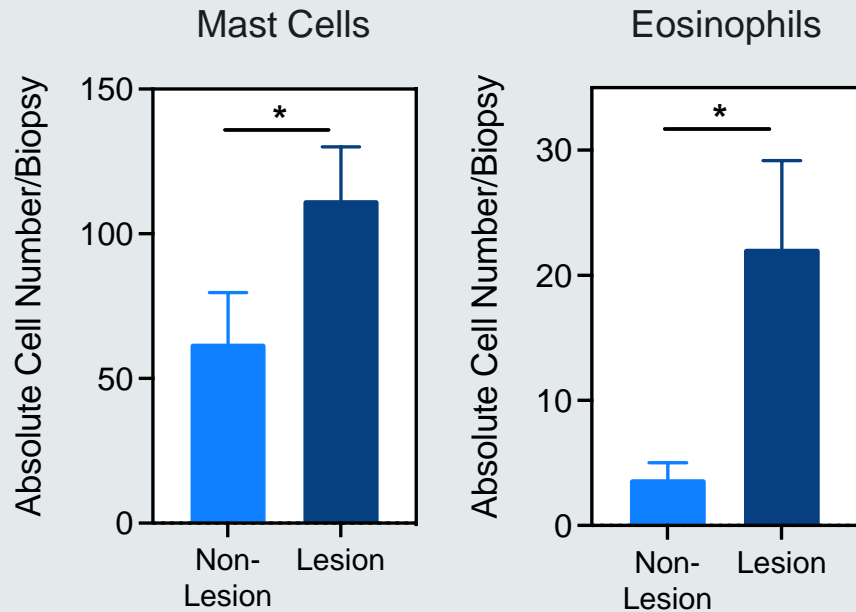


Lirentelimab treatment significantly reduces TLR-mediated airway inflammation, including IL-6, TNF, CCL2/MCP1, IP-10, and IL-1 β cytokine and chemokine production

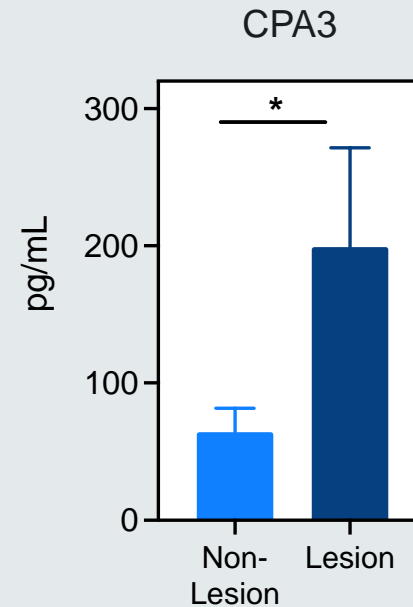
Lirentelimab for Atopic Dermatitis

AD Lesional Biopsies Show Evidence of MC and Eosinophil Activity

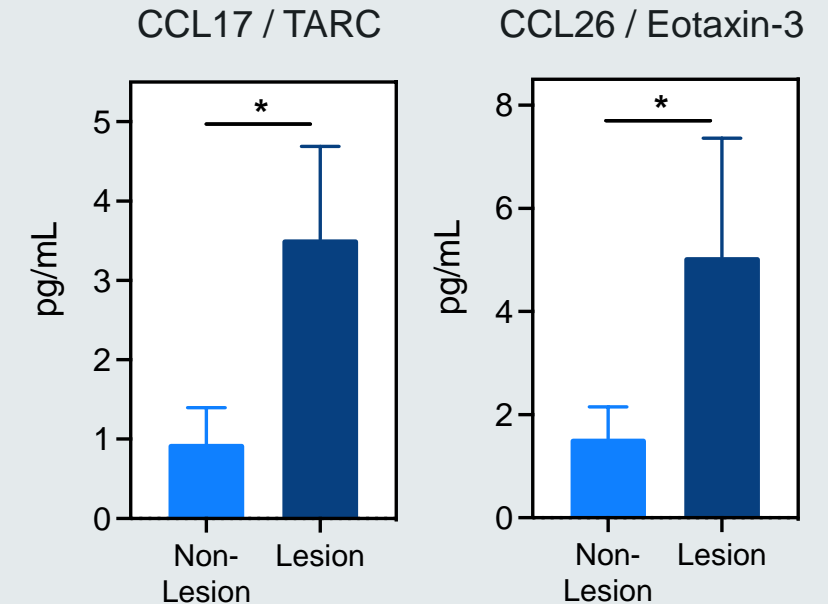
Immune Cell Numbers



Mast Cell Activation



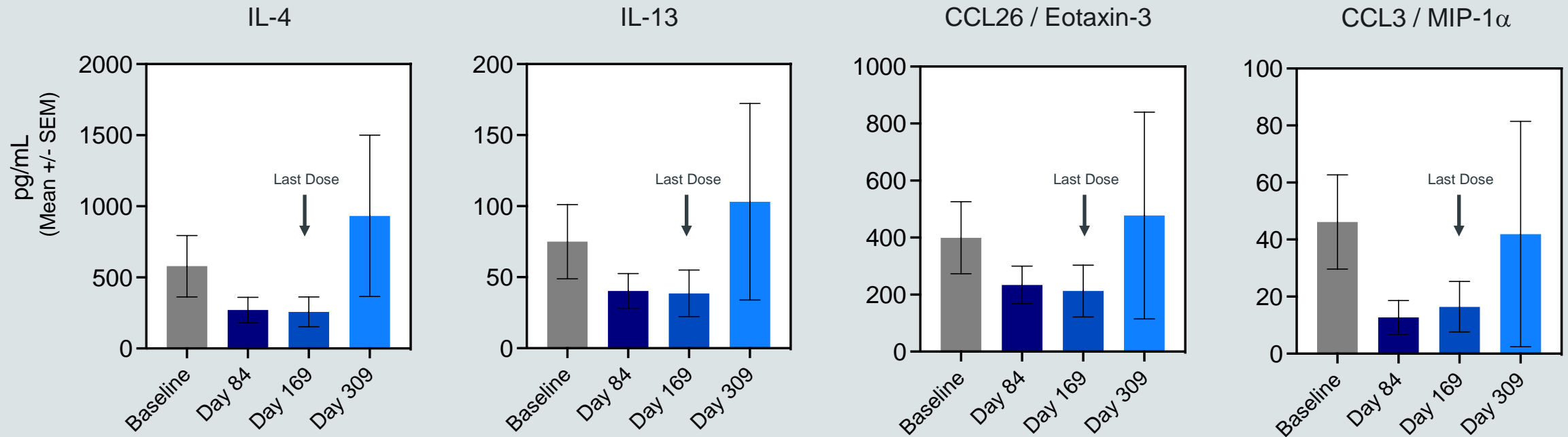
Disease Biomarkers



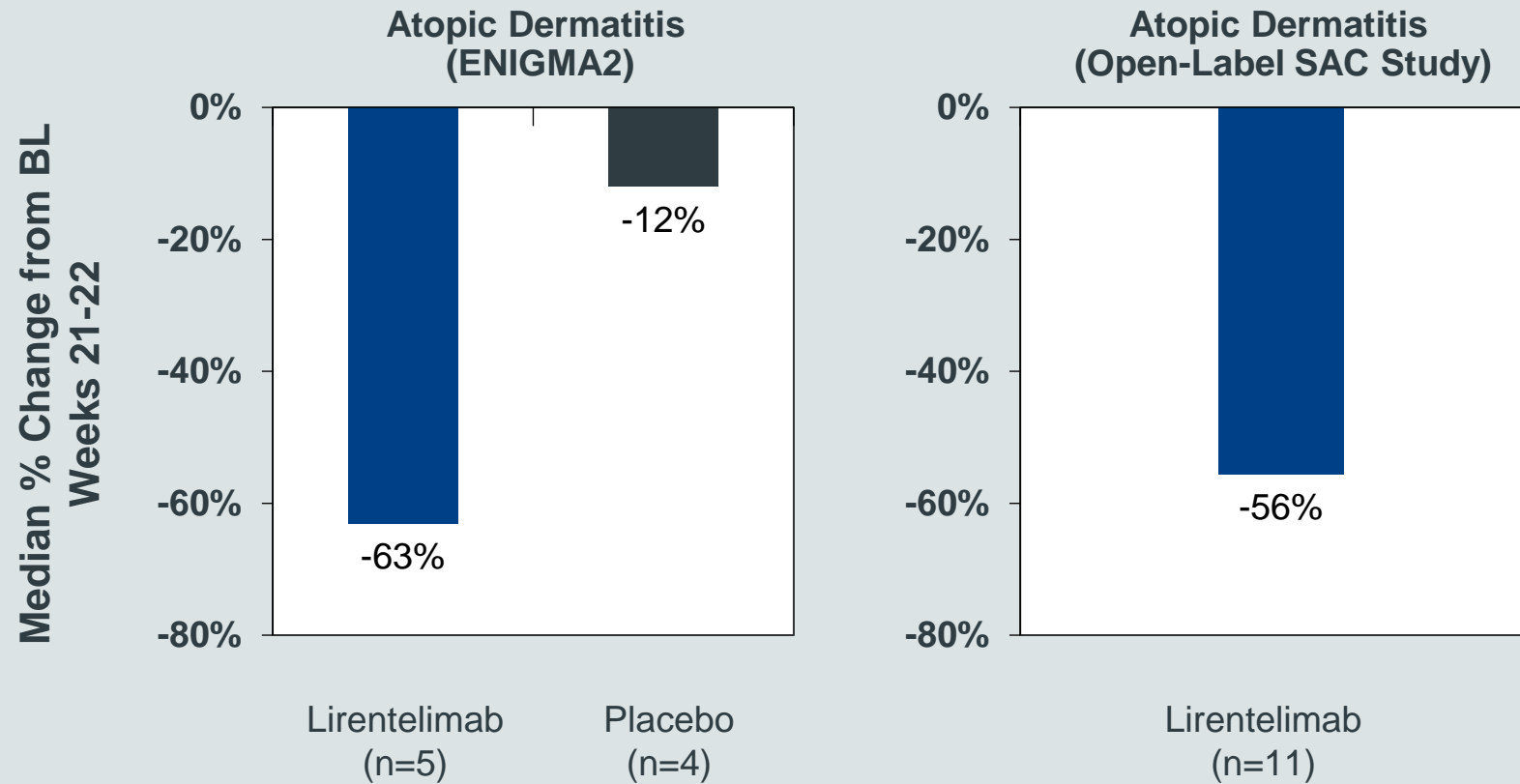
Lirentelimab reduces levels of CPA3, CCL17/TARC and CCL26/Eotaxin-3

Reduction in Clinically-Relevant Cytokines

Ocular Inflammation via Tear Cytokines (Ph1b Severe Allergic Conjunctivitis)



Improvement in Concomitant Atopic Dermatitis



Phase 2 AD Study Design

Study Design

- Multi-center, randomized, DB, placebo-controlled
- Chronic disease that has been present ≥ 3 years
 - EASI score ≥ 16
 - Involvement of $\geq 10\%$ of body surface area
 - IGA score ≥ 3
 - Inadequate control by topical treatments
- Dupilumab, tralikinumab, and JAK naïve
- 120 adult patients (1:1 randomization)
 - 300 mg Q2W subcutaneous lirentelimab (n=60)
 - Placebo (n=60)
- Open-label extension

Endpoints

- **Primary Endpoint**
 - Proportion of patients who achieve eczema area and severity index (EASI)-75 at week 14
- **Key Secondary Endpoints**
 - Percent change in EASI from baseline to week 14
 - Proportion of patients who achieve an IGA score of 0 or 1 AND a ≥ 2 -point improvement in Investigator Global Assessment (IGA) at week 14

Chronic Spontaneous Urticaria

Phase 2a Chronic Urticaria Study

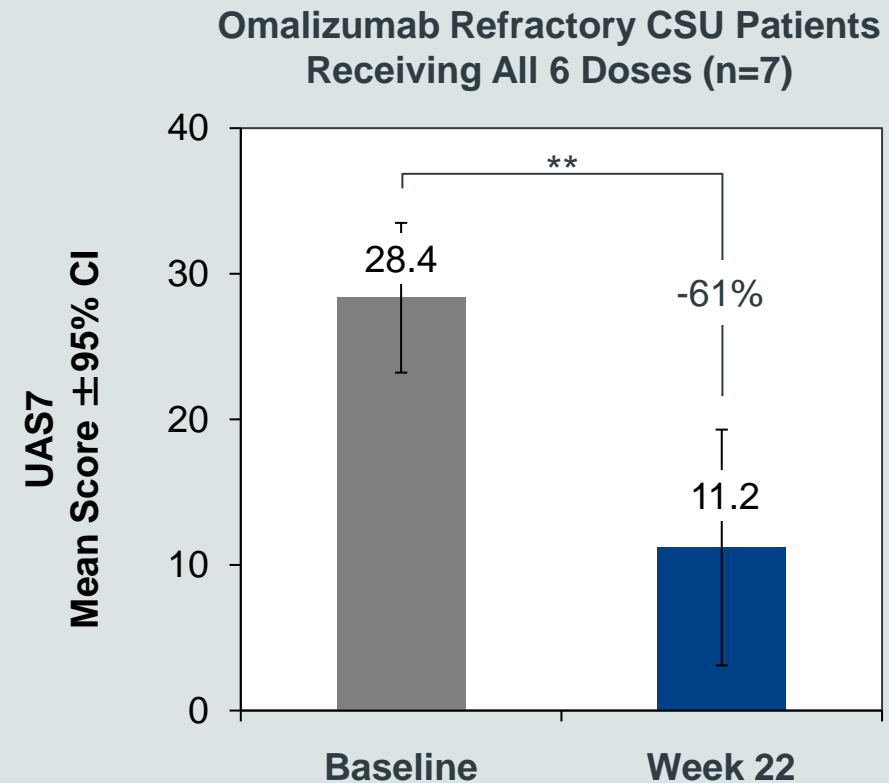
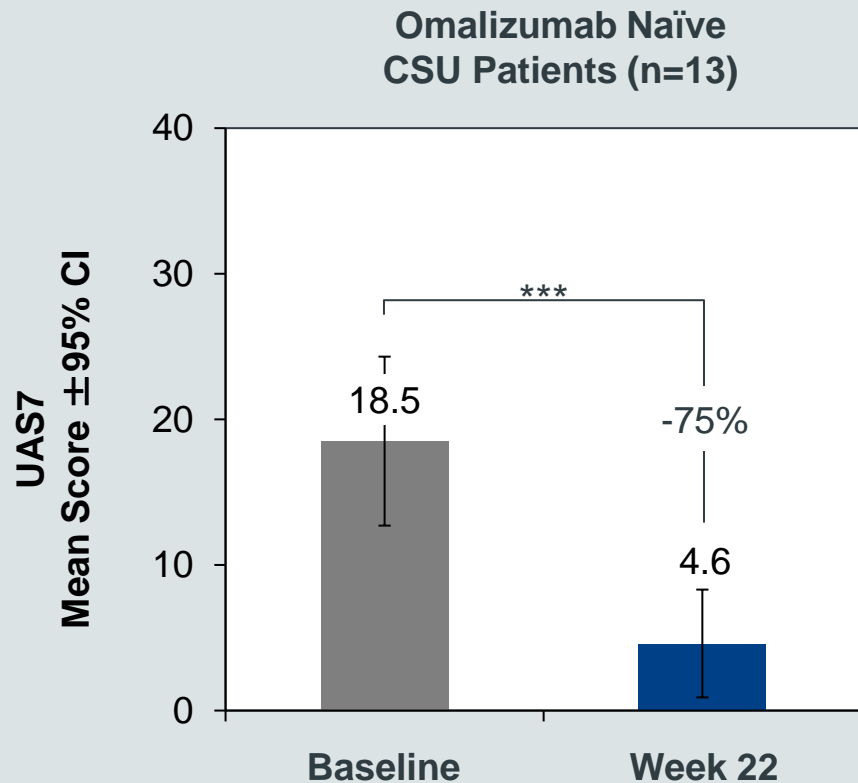
Study Design

- Open-label in Chronic Urticaria
- Uncontrolled CU (UCT<12)
- Diagnosis of CU for at least 3 months, refractory to antihistamine treatment in single or 4-fold dosage
- 45 patients – 4 arms
 - Omalizumab-naïve CSU
 - Omalizumab-refractory CSU
 - Cholinergic urticaria
 - Symptomatic dermographism
- 6 monthly doses
- 0.3 mg/kg starting lirentelimab dose; increased to 1.0 mg/kg (dose 2 and 3); if UCT <12, increased to 3.0 mg/kg (dose 4, 5, and 6)

Endpoints

- **Primary Endpoint**
 - Change in Urticaria Control Test (UCT) from Baseline to Week 22
- **Key Secondary Endpoints**
 - Change in disease activity by UAS7
 - Safety and tolerability

Phase 2a Chronic Urticaria Study – Results in CSU



Phase 2b Chronic Spontaneous Urticaria Study

Study Design

- Multi-center, randomized, DB, placebo-controlled
- Active moderate-to-severe symptoms
- CSU diagnosis with onset ≥ 6 months prior to screening
- Diagnosis of CSU refractory to antihistamines
 - Presence of itch and hives despite current use of antihistamines
 - UAS7 score ≥ 16 and HSS7 score ≥ 8 at baseline
- Omalizumab, dupilumab, and benralizumab naïve
- 100 adult patients – 2 arms
 - 300 mg Q2W subcutaneous lirentelimab (n=50)
 - Placebo (n=50)

Endpoints

- **Primary Endpoint**
 - Change from baseline in UAS7 at week 12
- **Key Secondary Endpoints**
 - Absolute change in ISS7
 - Absolute change in HSS7
 - Proportion of patients with UAS7=0

Lirentelimab for Inflammatory Skin Diseases

- Mast cells and eosinophils are key drivers of inflammatory skin diseases
- Lirentelimab has demonstrated broad inhibition of mast cell and eosinophil activity in vivo and ex vivo studies
- Clinical proof of concept in patients with CSU and concomitant AD

Professor Marcus Maurer, MD

TITLE: Professor of Dermatology and Allergy
Director of Research - Allergie Centrum Charité

INSTITUTION: Charité Universitätsmedizin Berlin

SPECIALTY: Dermatology, Allergy and Immunology

FOCUS: Urticaria, Mastocytosis, Angioedema, Pruritus,
Skin Infections, Allergic Diseases



- Organizing and Scientific Committee Member: GA2LEN/ UCARE, Multi-National Urticaria Centers of Excellence
- Editorial Board: Advances in Dermatology and Allergology
- Author/Co-Author: >500 peer-reviewed publications, 40 books and book chapters

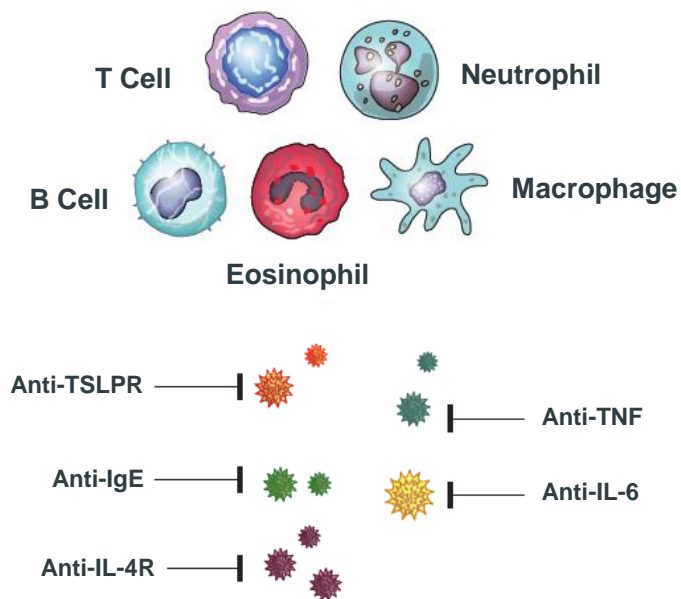
Pipeline Strategy & Update

Bradford A. Youngblood, PhD

Head of Research & Preclinical Development – Allakos Inc.

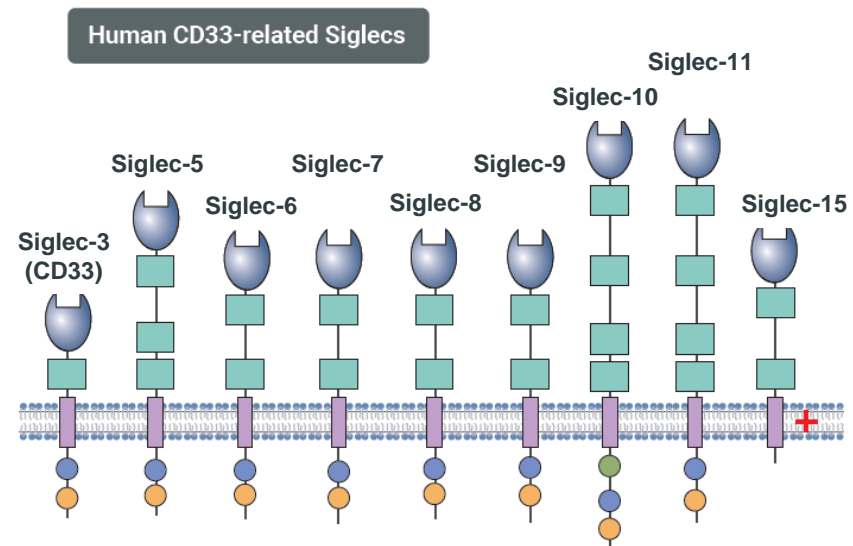
Pipeline Strategy Focused on Targeting Siglecs

Current Landscape is Mediator Focused



- Most molecules in development for inflammation target individual cytokines implicated in disease
- While effective, most mediators are produced by a small number of pathogenic immune cells that could be targeted directly

Inhibitory Receptors on Key Pathogenic Cells



- Siglecs are inhibitory receptors selectively expressed on key disease driving cells
- Ability to selectively suppress immune cell activation via agonistic mAbs to reduce chronic inflammation (ie lirentelimab)
- Opportunity to selectively activate immune cells through neutralization to increase anti-tumor immunity

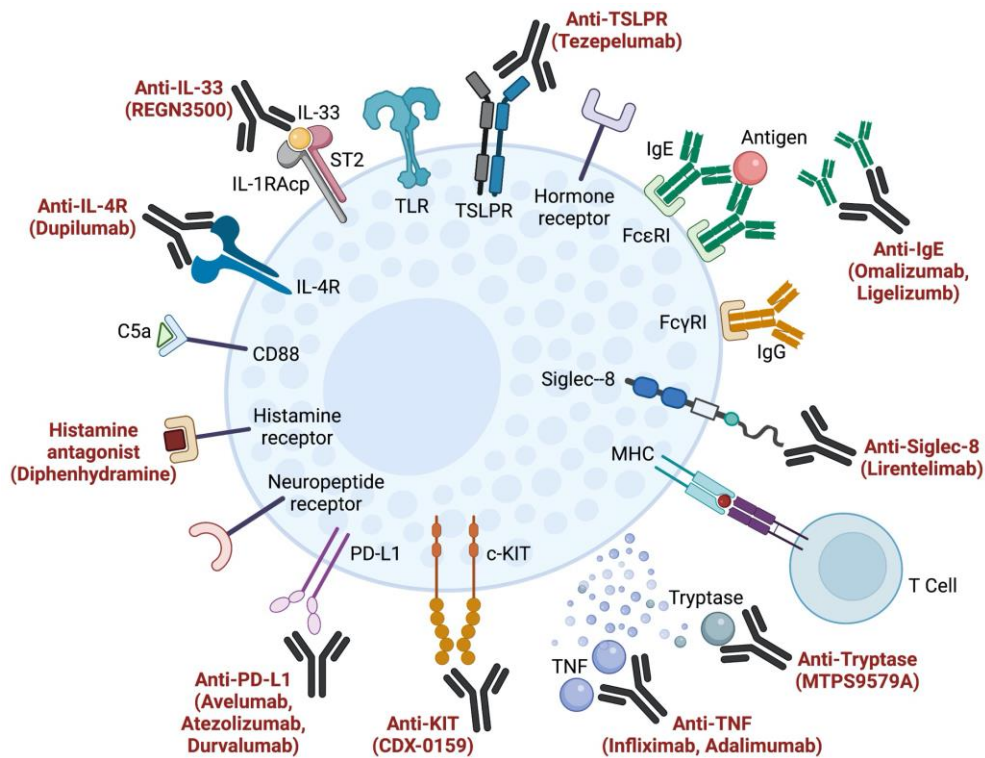
Allakos Pipeline

Antibody Program	Indication	Discovery	Preclinical	Phase 1	Phase 2	Phase 3	Registration	Milestone
Lirentelimab (Anti-Siglec-8)	Eosinophilic Gastritis (EG) and/or EoD							Topline data announced Dec 2021
	Eosinophilic Duodenitis (EoD)							Topline data expected Q3 2022
	Eosinophilic Esophagitis (EoE)							Topline data announced Dec 2021
	Chronic Urticaria							Initiation expected mid-2022
	Atopic Dermatitis							Initiated Q4 2021
	Severe Allergic Conjunctivitis							Completed 2019
	Mast Cell Gastrointestinal Disease							Completed 2019
	Indolent Systemic Mastocytosis							Completed 2019
AK006 (Anti-Siglec-6)	Inflammatory Diseases							IND expected 1H 2023
AK007 (Undisclosed Target)	Inflammation							Ongoing
	Immuno-Oncology							Ongoing

AK006 Program

Mast Cells are Pathogenic Cells that are Non-Selectively Targeted

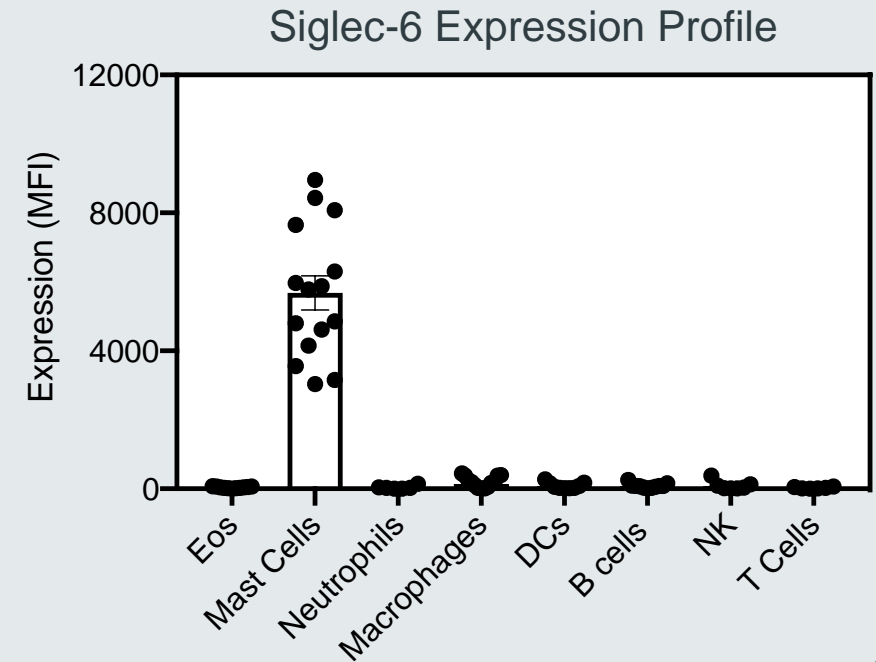
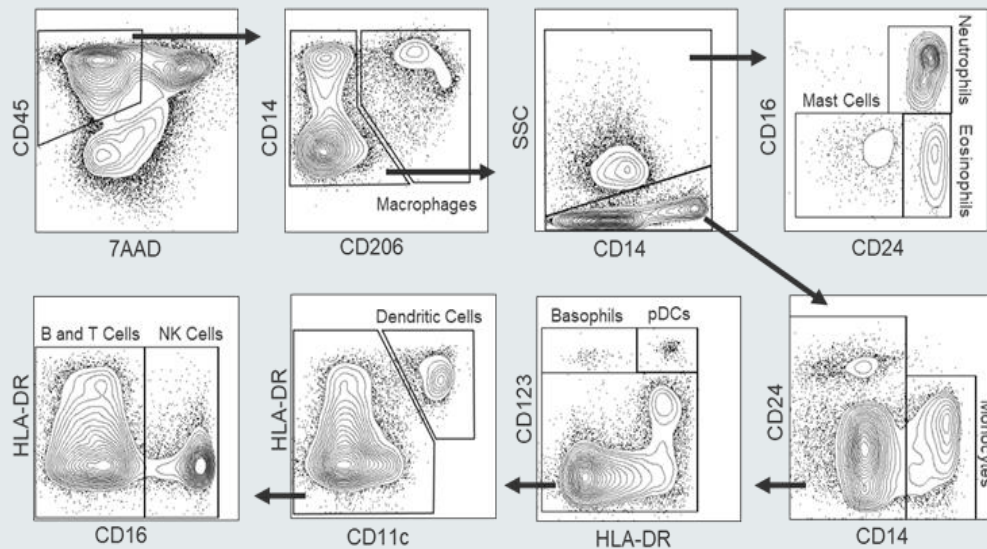
Molecules Targeting Mast Cell Receptors



- Mast cells express numerous activating receptors on their cell surface that contribute to disease
- Multiple molecules in development target single activating receptors on the mast cell surface or mast cell-derived mediators
- Currently, none of these molecules selectively target or broadly inhibit mast cells, resulting in incomplete mast cell inhibition or off target effects
- Siglecs represent attractive targets for broadly regulating mast cell function
- Siglec-6 is an inhibitory receptor selectively expressed on mast cells that has unique immunomodulatory activity

Siglec-6 Is Selectively Expressed on Human Tissue Mast Cells

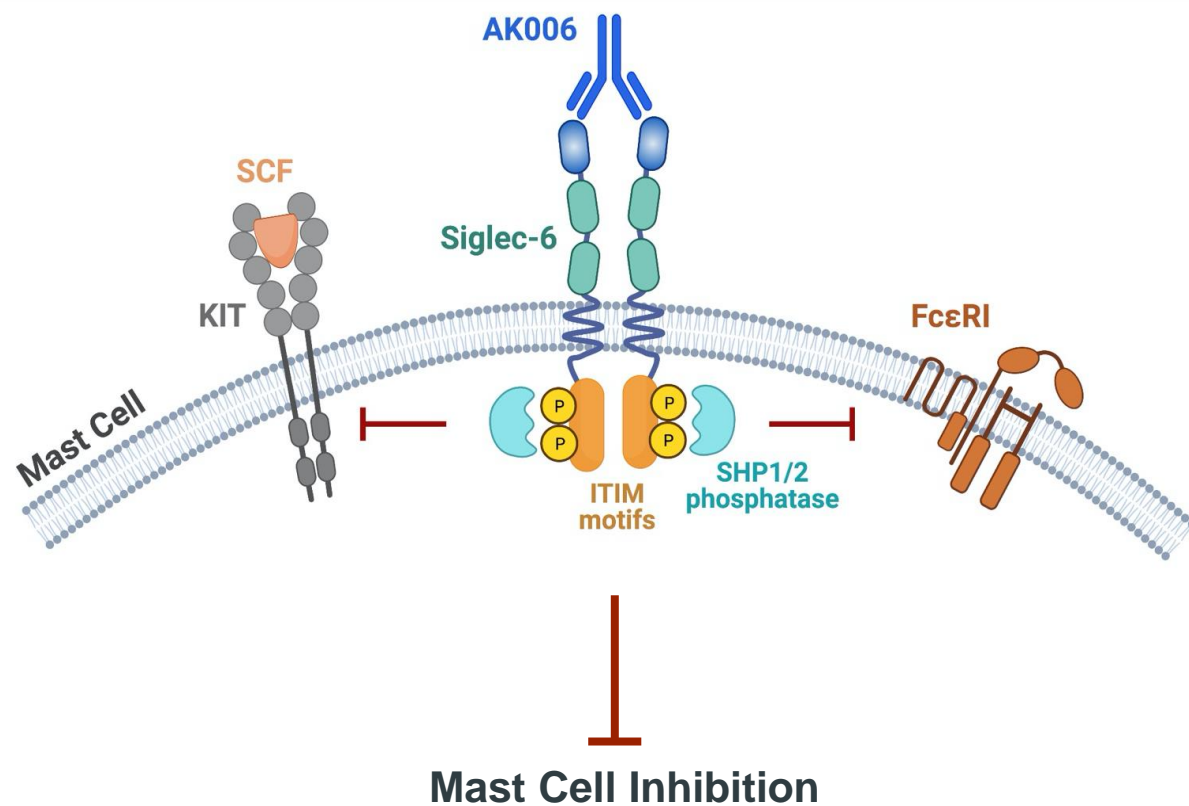
Gating Strategy for Immune Cells in Human Tissue



n=15 human donors

Siglec-6 represents a selective mast cell inhibitory receptor

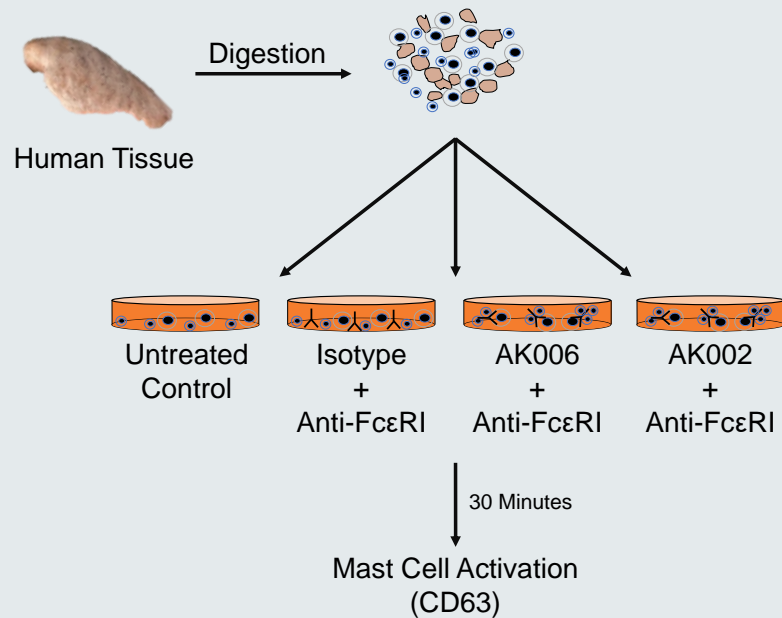
AK006: Siglec-6 mAb That Selectively Targets Mast Cells



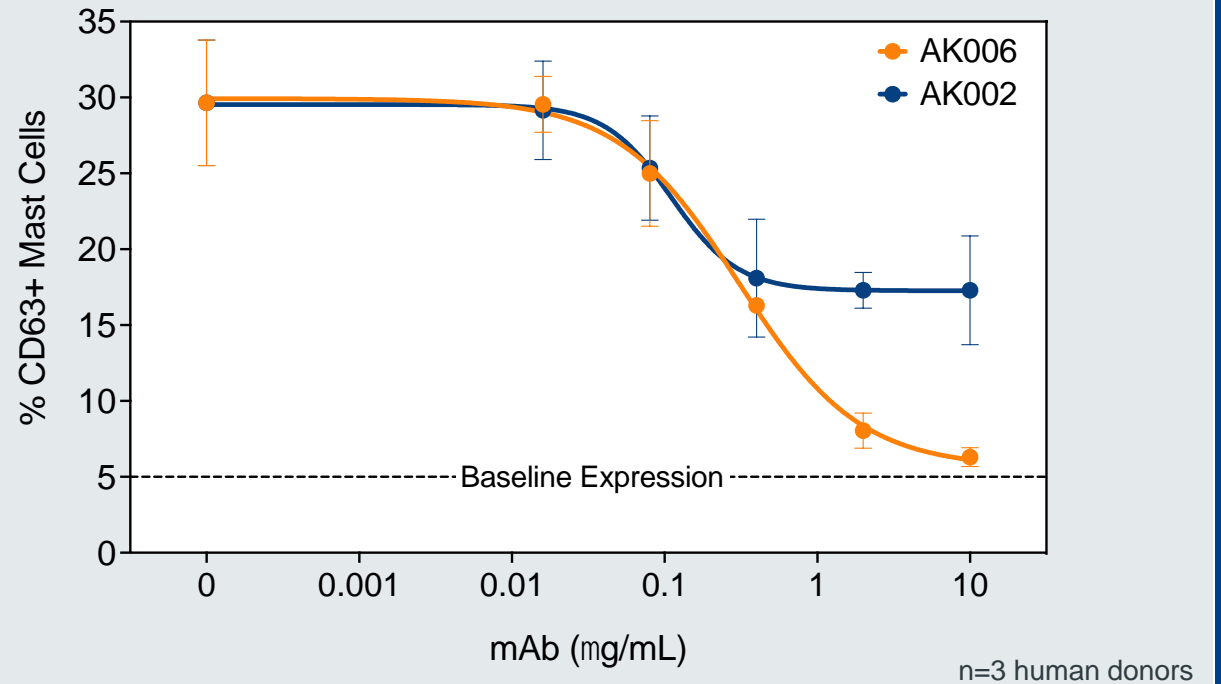
- AK006 is a humanized IgG1 agonistic Siglec-6 mAb that selectively targets mast cells
- High affinity mAb selected for potent Siglec-6 agonism
- Unique MOA that differentiates from other mast cell-targeting molecules
 - Broad mast cell inhibition via Siglec-6 ITIM agonism
 - Reduction of mast cells via Fc-dependent mechanism
- Opportunity to selectively and completely target mast cells in mast cell-driven diseases

AK006 Inhibits Mast Cell Activation in Human Tissues

Human Tissue Mast Cell Activation Assay



IgE-Activated Human Tissue Mast Cells

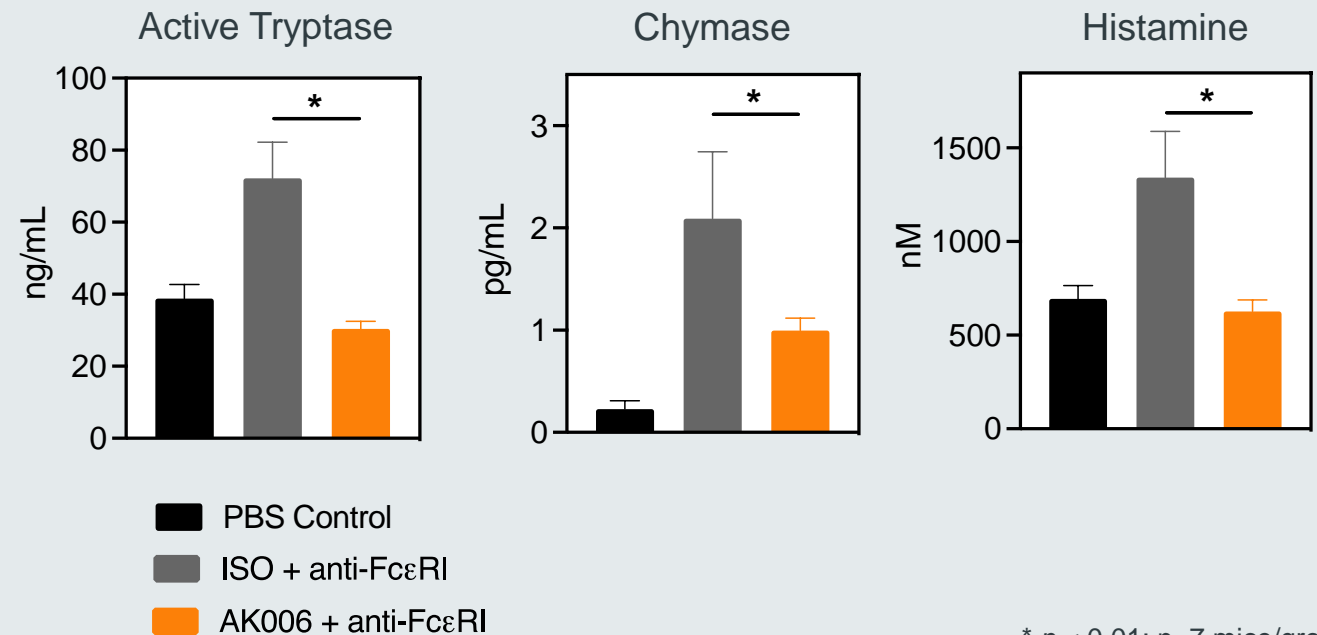
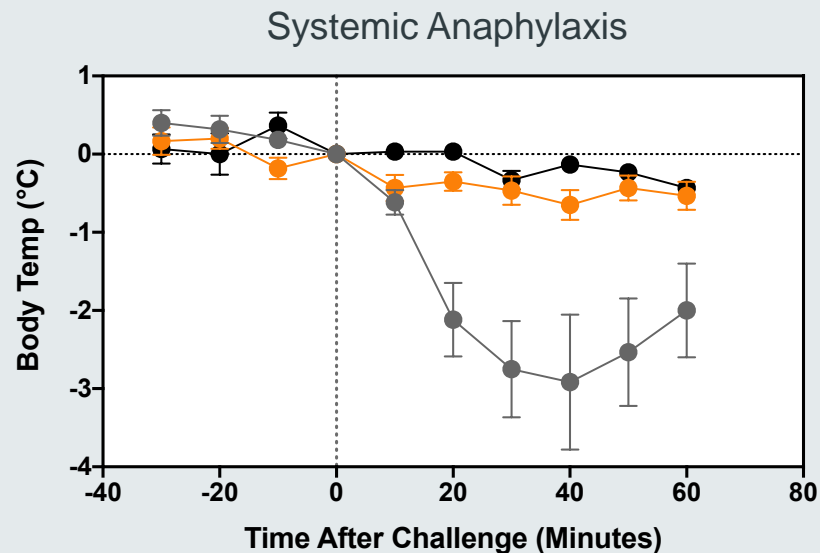


AK006 potently inhibits IgE-mediated mast cell activation

AK006 Completely Protects Against Systemic Anaphylaxis in Humanized Mice

Humanized Mouse Model of Anaphylaxis

Mast Cell-Specific Mediators

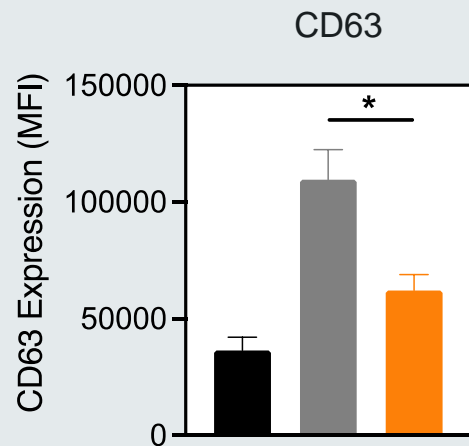


* $p < 0.01$; $n=7$ mice/group

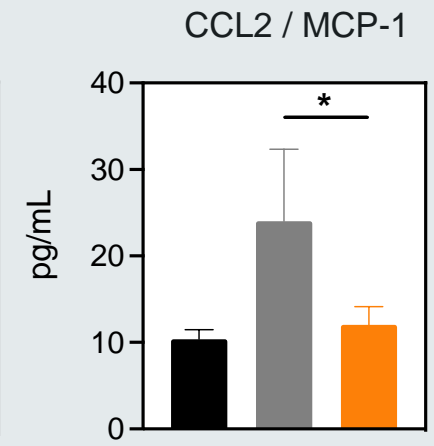
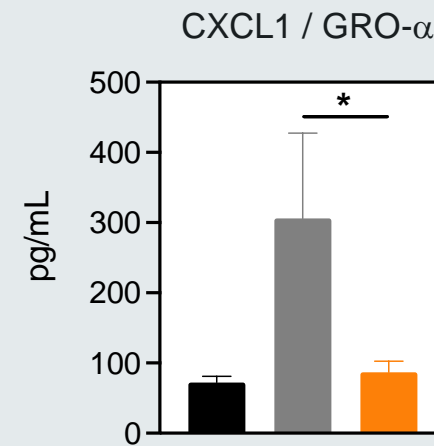
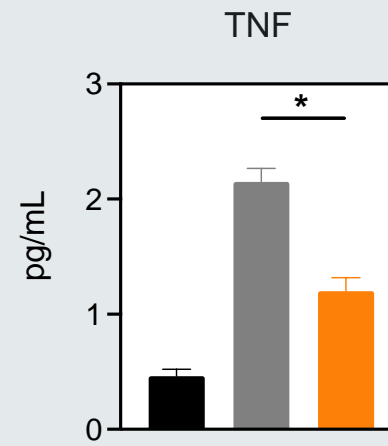
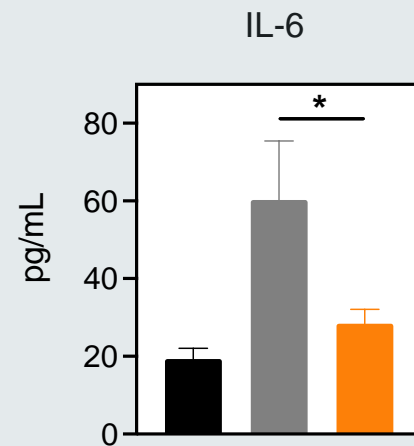
AK006 inhibits IgE-mediated mast cell activation in vivo

AK006 Inhibits KIT-mediated Mast Cell Activation in Siglec-6 Transgenic Mice

Mast Cell Activation



Cytokines and Chemokines



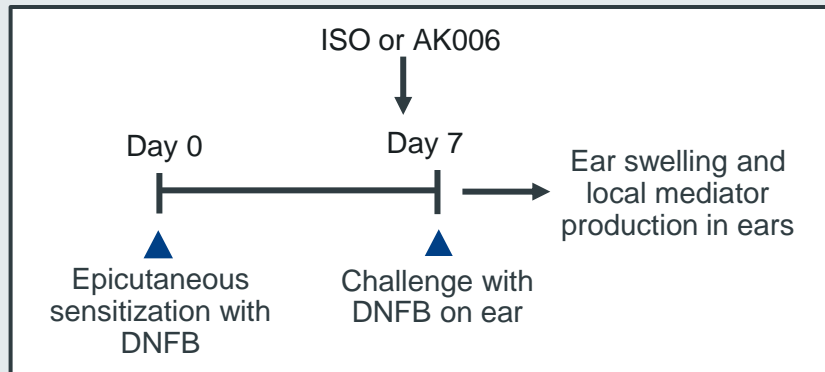
■ PBS
 ■ ISO + SCF
 ■ AK006 + SCF

SCF, stem cell factor; * $p < 0.01$; n=7-8 mice/group

AK006 inhibits KIT- and IgE-mediated mast cell activation

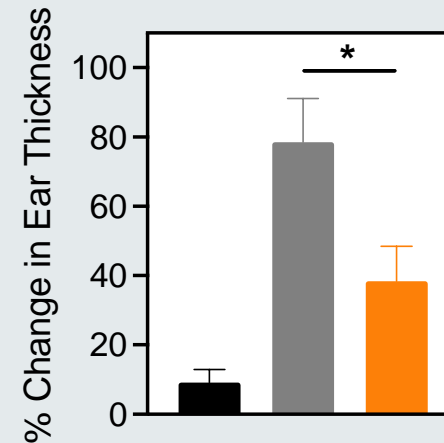
AK006 Inhibits Allergic Contact Dermatitis in Siglec-6 Transgenic Mice

Model of Contact Dermatitis



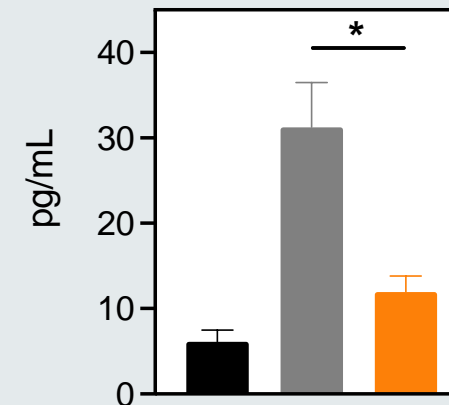
Skin Inflammation

Ear Swelling

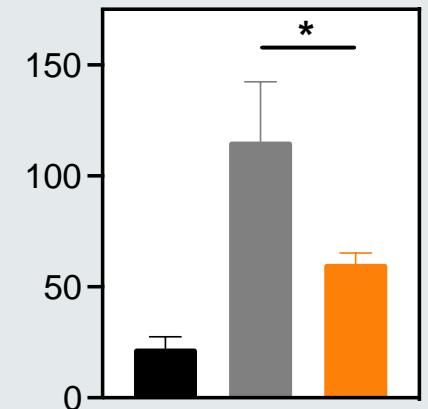


Cytokines in Ex Vivo-Cultured Ears

IL-4



TNF



■ Sham
 ■ ISO + DNFB (Hapten)
 ■ AK006 + DNFB (Hapten)

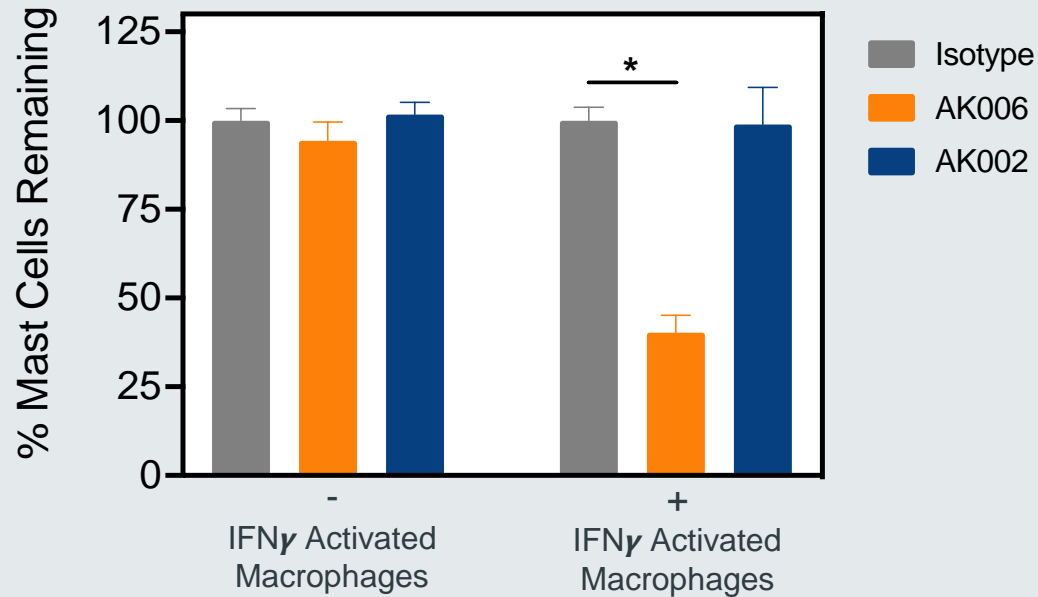
* $p < 0.01$; n=6-7 mice/group
 DNFB, 2,4-dinitrofluorobenzene

AK006 reduces skin inflammation via mast cell inhibition

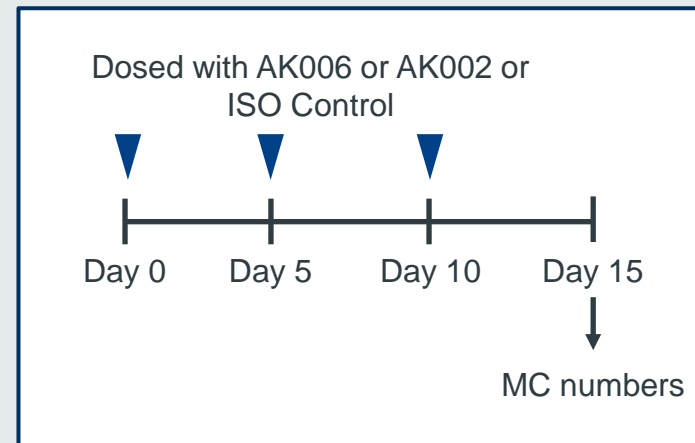
AK006 Reduces Human Tissue Mast Cells

Ex Vivo Human Tissue Mast Cells

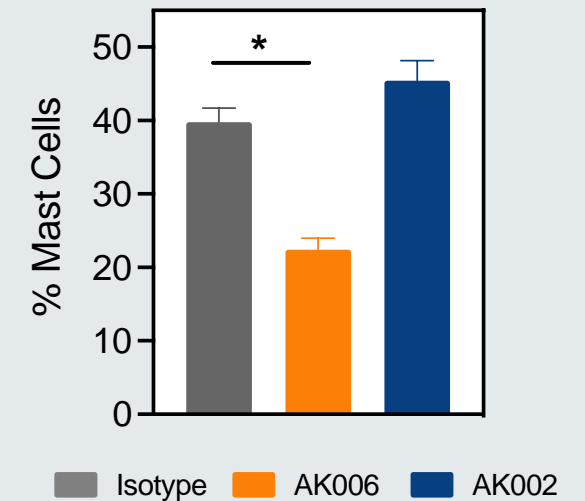
Mast Cells in Tissue



Dosing Study in Humanized Mice



Peritoneal Mast Cells



* $p < 0.01$; (left) $n=3$ human donors; (right) $n=8-10$ mice/group

AK006 inhibits mast cells and reduces mast cell numbers

Summary

- **AK006 is a humanized IgG1 agonistic Siglec-6 mAb that selectively inhibits mast cells and reduces their numbers**
 - Represents the first mast cell-specific molecule in development
 - Avoids off-target effects of non-selective mast cell molecules
- **Unique MOA that differentiates from other mast cell-targeting molecules**
 - Inhibition of both IgE-dependent and independent mast cell activation
 - Reduces mast cell numbers in tissue
- **First-in-human study planned 1H 2023**

Closing Remarks

Baird Radford & Robert Alexander, PhD
CFO and CEO – Allakos Inc.

Expected Cash Runway into Early Q1 2024

Adjusting Cost Structure

Realigned operating and expense structures to enable our lircetelimumab and AK006 development plans

Completed a 35% reduction in our workforce

Negotiated one-time settlements to exit future manufacturing and other contractual obligations with vendors as well as employee severance arrangements totaling approximately \$150 million

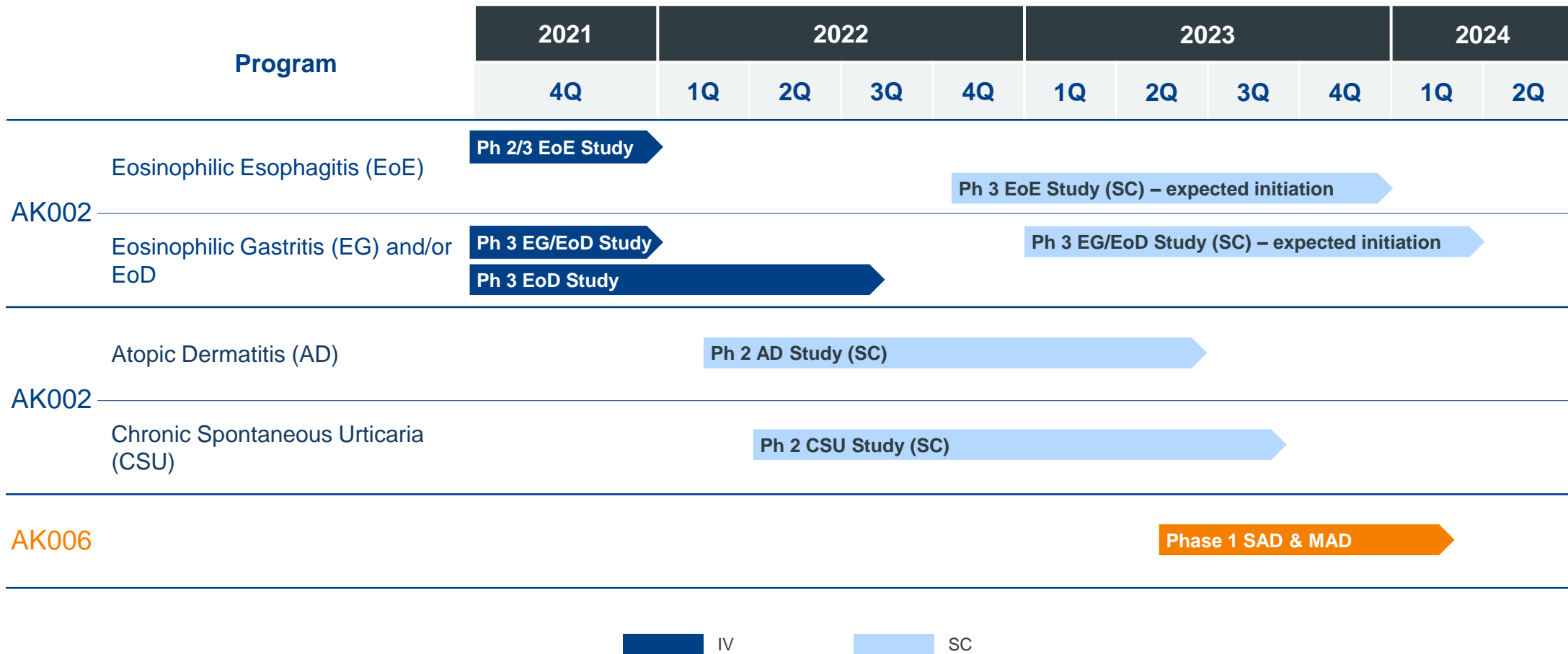
Cash and Investments

Balance as of Dec 31, 2020	\$659 Million
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Full Year 2021 Cash Used	\$235 Million
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Balance as of Dec 31, 2021	\$424 Million
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Development Timeline



Q&A

Allakos



Thank You

References

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- Straumann A, Spichtin HP, Grize L, et al. Natural history of primary eosinophilic esophagitis: A follow-up of 30 adult patients for up to 11.5 years. Gastroenterology 2003;125:1660–9.
- Stein ML, Collins MH, Villanueva JM, et al. Anti-IL-5 (mepolizumab) therapy for eosinophilic esophagitis. J Allergy Clin Immunol 2006;118:1312–3219.
- Pentiuk SP, Miller CK, Kaul A. Eosinophilic esophagitis in infants and toddlers. Dysphagia 2007;22:44–48.
- Straumann A, Conus S, Grzonka P, et al. Anti-interleukin-5 antibody treatment (mepolizumab) in active eosinophilic oesophagitis: a randomised, placebo-controlled, double-blind trial. Gut. 2010 Jan;59(1):21-30.
- Schaefer ET, Fitzgerald JF, Molleston JP, et al. Comparison of oral prednisone and topical fluticasone in the treatment of eosinophilic esophagitis: a randomized trial in children. Clin Gastroenterol Hepatol. 2008 Feb;6(2):165-73.