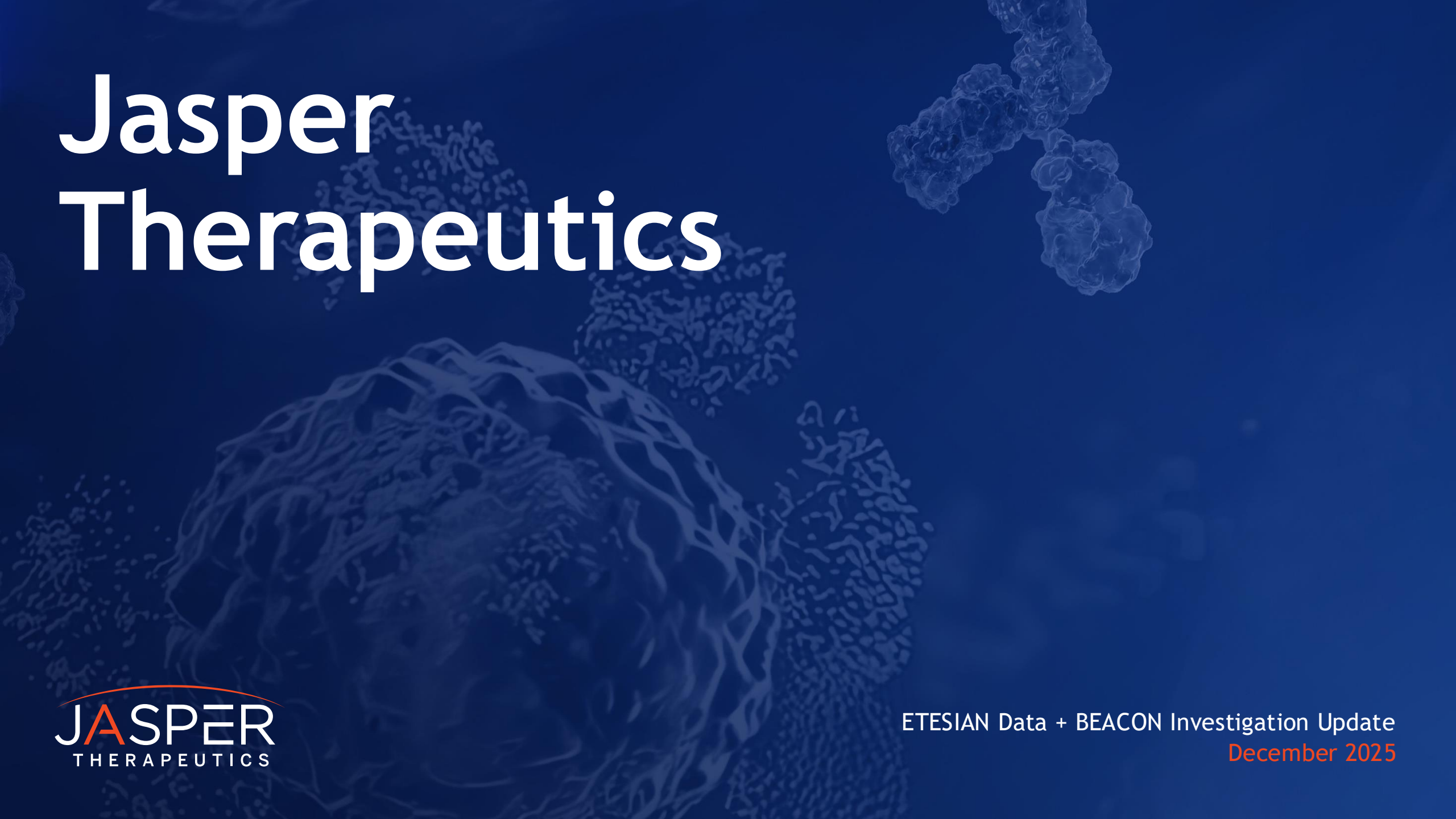


Jasper Therapeutics



ETESIAN Data + BEACON Investigation Update
December 2025

Safe Harbor Statements

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Agenda

BEACON Trial Investigation Results

- Ronald Martell, CEO Jasper Therapeutics
- Dr. Daniel Adelman, Acting CMO Jasper Therapeutics

BEACON Redosing Data & KOL Feedback

- Dr. Martin Metz, Professor of Dermatology and Allergy, Charité - Universitätsmedizin Berlin

ETESIAN Trial Interim Results

- Dr. Daniel Adelman, Acting CMO Jasper Therapeutics

Q&A Session

BEACON Study Cohort 8 and Cohort 9 Initial Results

Anomalous efficacy observations led to internal investigation being undertaken



July 2025 BEACON data for cohort 8 (240mg Q8W) and cohort 9 (240mg→180mg Q8W) showed an unexpected lack of clinical response

- No US patients (n=10) achieved Complete Response(CR) or Well Controlled (WC) UAS7 by week 12
 - All were dosed using lot A34954, which was the first time it was used in the BEACON study
- 2 of 3 patients at EU sites achieved CRs, however EU sites used a different drug lot (A34955)

Jasper immediately replaced lot A34954 with lot A34955 (used in OLE and EU BEACON sites)

Jasper also launched an internal investigation into the results

- Comprehensive review of manufacturing records, drug handling, site training/logs and data handling
- Recovery and testing by JSPR & independent labs of drug product samples from across the supply chain
- Review of all US sites and all 10 US patients, including protocol adherence, patient medical histories, patient screening and all PK/PD/efficacy data

A KOL panel reviewed the internal investigation findings, including full patient dossiers, and provided their input



BEACON Trial Internal Investigation Results

Dr. Daniel Adelman, Acting CMO Jasper Therapeutics

Phase 1b/2a BEACON Study in Chronic Spontaneous Urticaria

Randomized, Double-Blind, Placebo-Controlled, Multiple Ascending Dose Study



Screening/Eligibility		Study Operations		Key Assessments	
- CSU diagnosis ≥ 6 mos. - UAS7 ≥ 16 18+ years		- US Lead: Tom Casale, MD - EU Lead: Martin Metz, MD ~30 sites in the US & EU		- Disease Scores: UAS7, UCT - Safety: TEAEs, SAEs - PK - Mast Cell Depletion & Recovery: Serum Tryptase, Skin Biopsies	
	Cohort #	Dose	Patients (Randomization)	Schedule	
Open Label (n=6)	C1	10mg	n=3	Weeks 0, 4, 12, 20	
	C2	40mg	n=3		
Double-Blind Placebo-Controlled (n=76)	C3	80mg	n=8 (3:1)	Q8W	
	C4a	120mg	n=6 (2:1)	Q8W	
	C4b		n=6 (2:1)	Q12W	
	C5b	180mg	n=10 (3:1)	Q8W	
	C5a		n=9 (3:1)	Q12W	
	C6	240mg SD	n=8 (3:1)	Single Dose	
	C7	360mg SD	n=6 (3:1)	Single Dose	
	C8	240mg	n=8* (3:1)	Q8W	
	C9	240mg → 180mg	n=9* (3:1)	Q8W	

*Adding 10-12 additional patients across 240mg → 180mg Q8W and 240mg Q8W cohorts

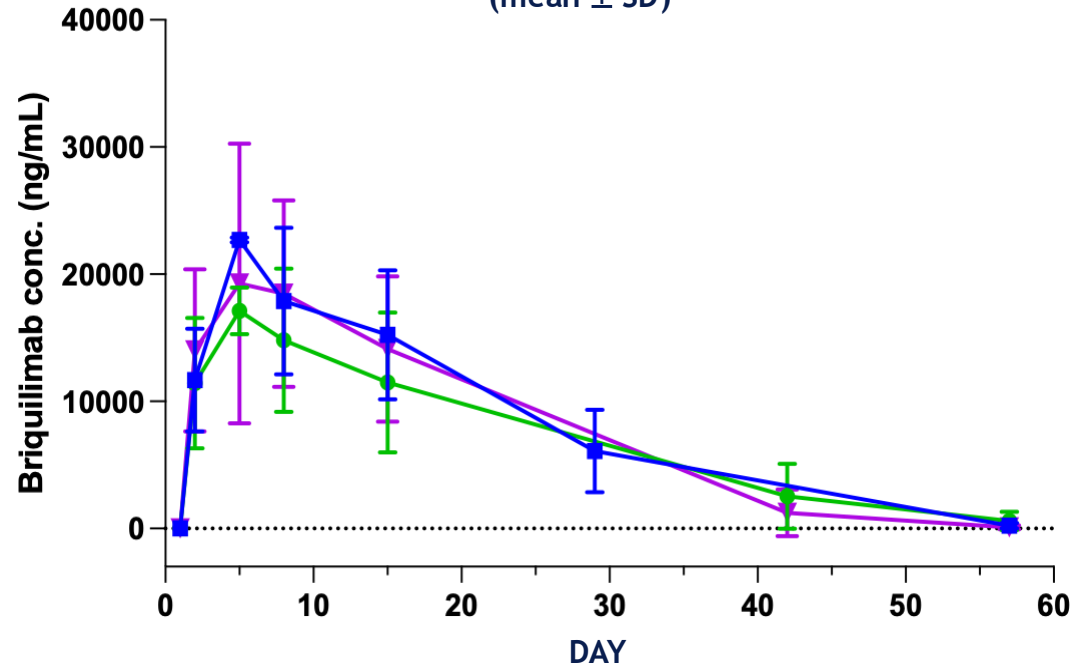
 Cohorts included in January/ July 2025 data cuts

 Additional data expected 1Q 2026

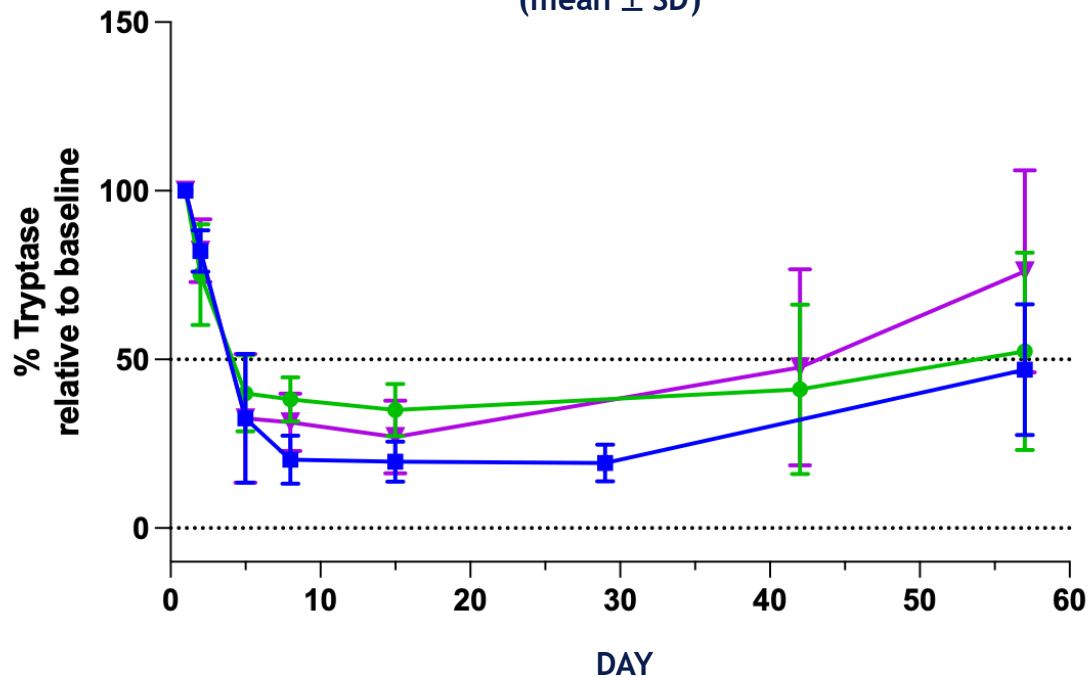
Pharmacokinetics and Effect on Tryptase Consistent Across Cohorts 6, 8 and 9

No indication of any variation in results due to initial DP lot used in Cohort 8 and Cohort 9

Cohort 6-8-9 PK_D56
(mean $\pm$ SD)



Cohort 6-8-9 % tryptase_D56
(mean $\pm$ SD)

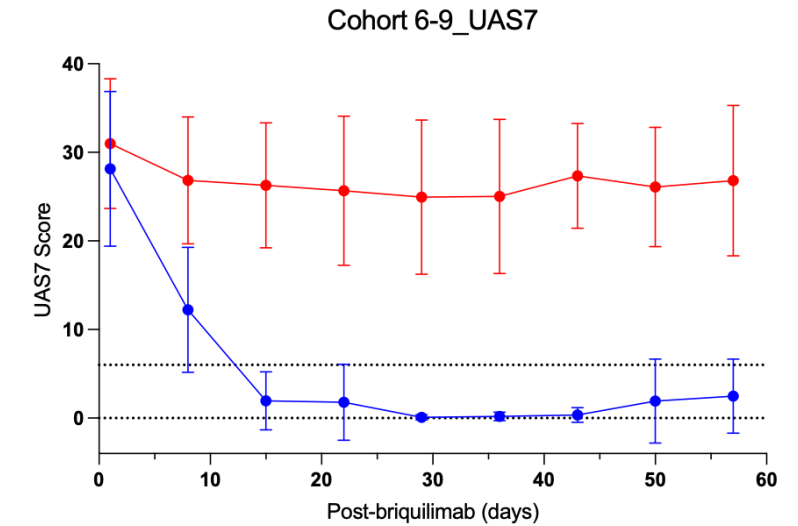
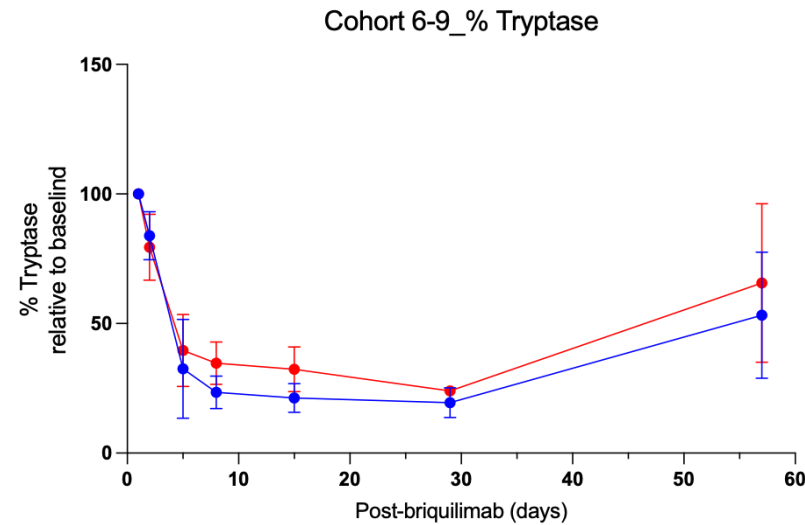
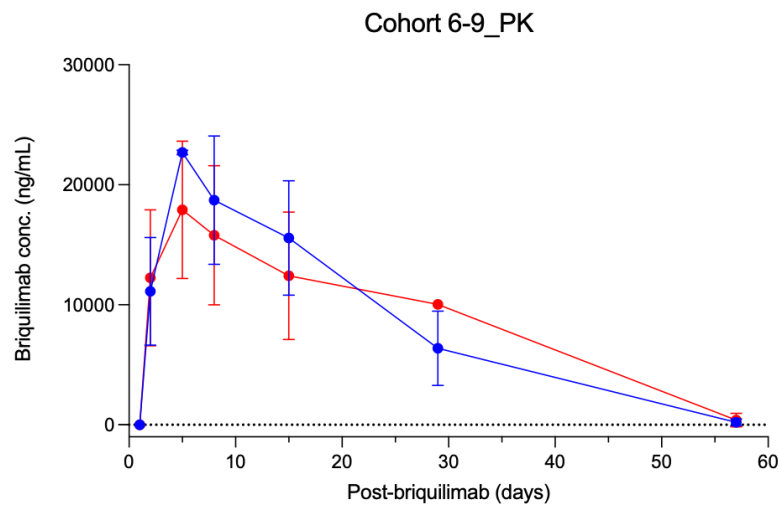


- Cohort 6 - 240mg Single Dose (n=6)
- Cohort 8 - 240mg Q8W (n=5)
- ▼ Cohort 9 - 240mg / 180mg Q8W (n=7)

Data is shown as mean $\pm$ SD
Placebo subjects are excluded
Tryptase LLOQ is set as 0.8 ng/mL

Briquilimab PK and PD are Consistent Between UAS7 Responders and Non-Responders (Cohorts 6-9)

Suggest that the investigational product is not the most likely driver; pointing to patient-specific factors



● Complete / Well-Controlled
■ Non-Responder

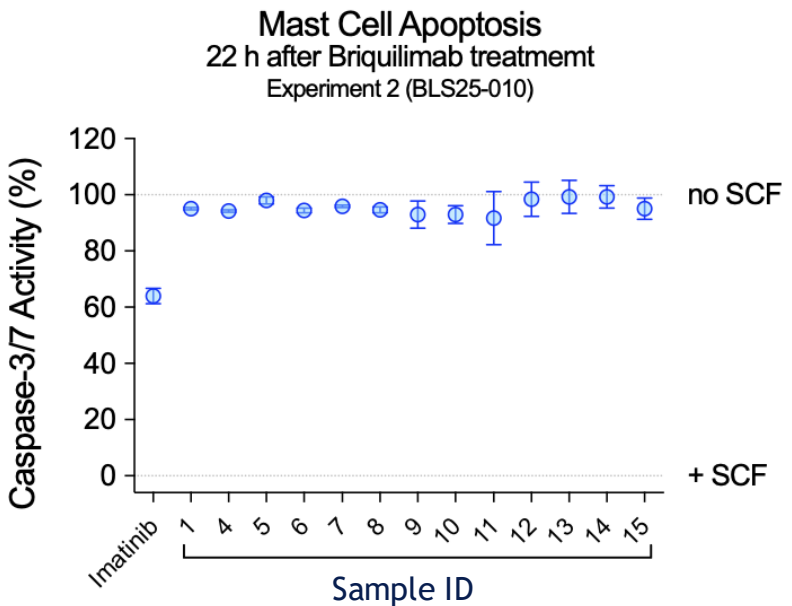
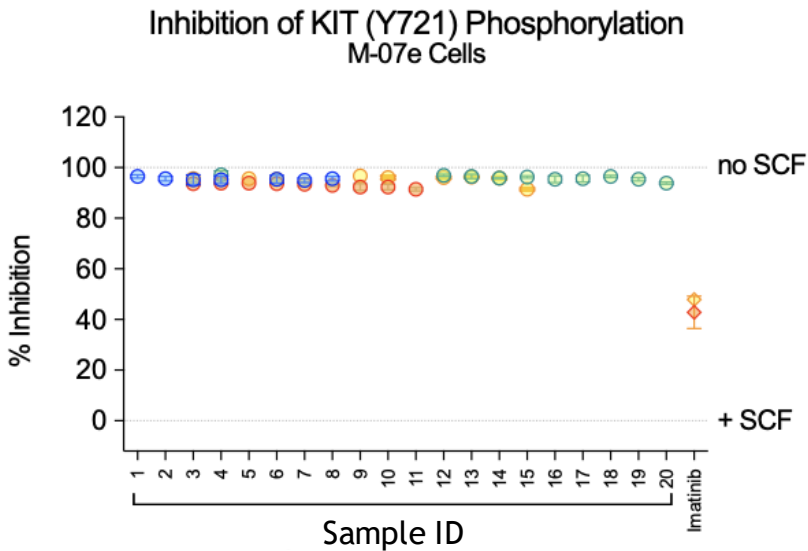
Data is shown as mean $\pm$ SD
Placebo subjects are excluded
Tryptase LLOQ is set as 0.8 ng/mL

Physical-Chemical and In-Vitro Cell Line Experiments Show No Difference in Briquilimab Lots or Clinical Samples (internal and external labs)



Sample ID	SEC (% Main)	Non-Reduced CGE (% Monomer)
Sample # 1	96.1	95.2
Sample # 2	96.1	94.8
Sample # 3	96.1	95.0
Sample # 4	96.1	94.9
Sample # 5	96.1	94.9
Sample # 6	96.1	94.8
Sample # 7	96.2	94.1
Sample # 8	96.1	94.5
Sample # 9	96.1	94.7
Ref Standard	97.0	95.3

SEC, size exclusion chromatography. CGE, capillary gel electrophoresis. SCF, stem cell factor



No deviations in drug management, clinical conduct or data entry/handling noted

- On-site investigations
- Drug substance and drug product manufacturing
- Drug kitting, shipment and storage
- Injection preparation, timing and storage, types of syringes, injection volume and site
- Patient and site data entry, data management and analysis

Site investigations

- Site specific screening and dosing data reviewed for each patient
- Comprehensive patient folios prepared for each patient and reviewed by CSU KOL panel
- One new site enrolled 5 patients into active arms of Cohort 8 & 9 with no CR or WC responses
 - Community-based, clinical research center
 - All patients had minimal documented medical history of CSU or past treatments for CSU

Internal investigation indicates anomalous results are due to patient specific factors

- No deviations or issues with Drug Product or Drug Substance were noted



BEACON Trial Investigation KOL Review & Redosing Data

**Dr. Martin Metz, Professor of Dermatology and Allergy
Charité - Universitätsmedizin Berlin**

Updated Clinical Data for Cohorts 8 & 9 Through 24 Weeks Show Consistent Results Regardless of Drug Product Lot Utilized

As part of the internal investigation, patients in BEACON cohort 8 & 9 patients were switched to new DP lot through the end of their 24-week dosing period

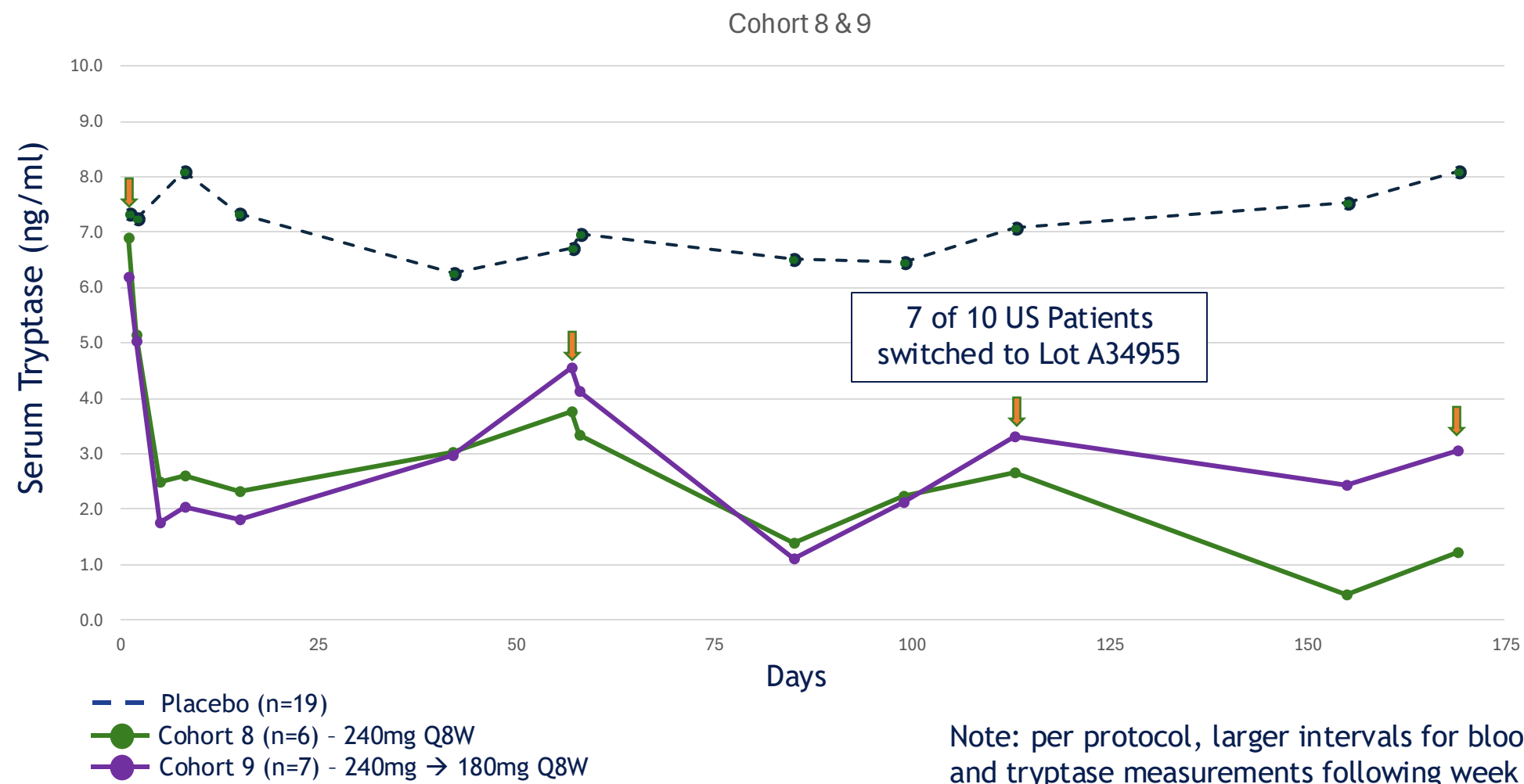
- Lot A34954 immediately replaced at all clinical sites with A34955 (lot used in OLE, BEACON EU)
- Most patients received Lot A34955 by Week 8 or Week 16 (7 of 10 US patients)
- 2 patients transitioned to lot A34955 at Week 24

After transitioning US patients to a different DP lot:

- PK and PD measures remained consistent with initial DP lot
- No notable change in efficacy outcomes were observed in 8 of the 9 patients redosed
- One patient did achieve WC disease after third dose, but that response was building on a 20 point drop in UAS7 achieved after their first two doses with the initial DP lot

Cohorts 8 & 9 - Serum Tryptase

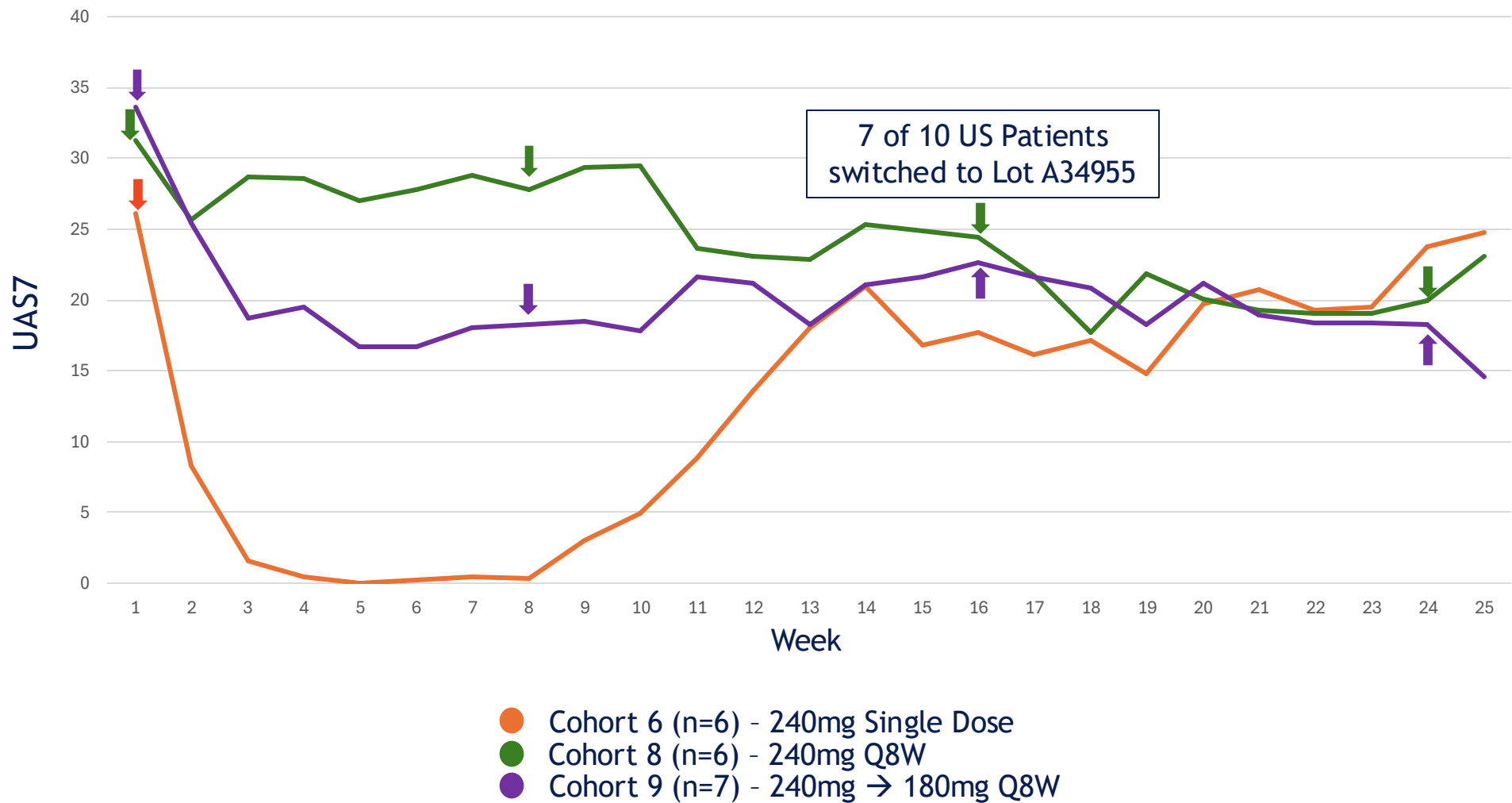
Deep reductions in tryptase levels maintained after transition to different DP lot



Note: per protocol, larger intervals for blood sampling for PK and tryptase measurements following week 8 on study

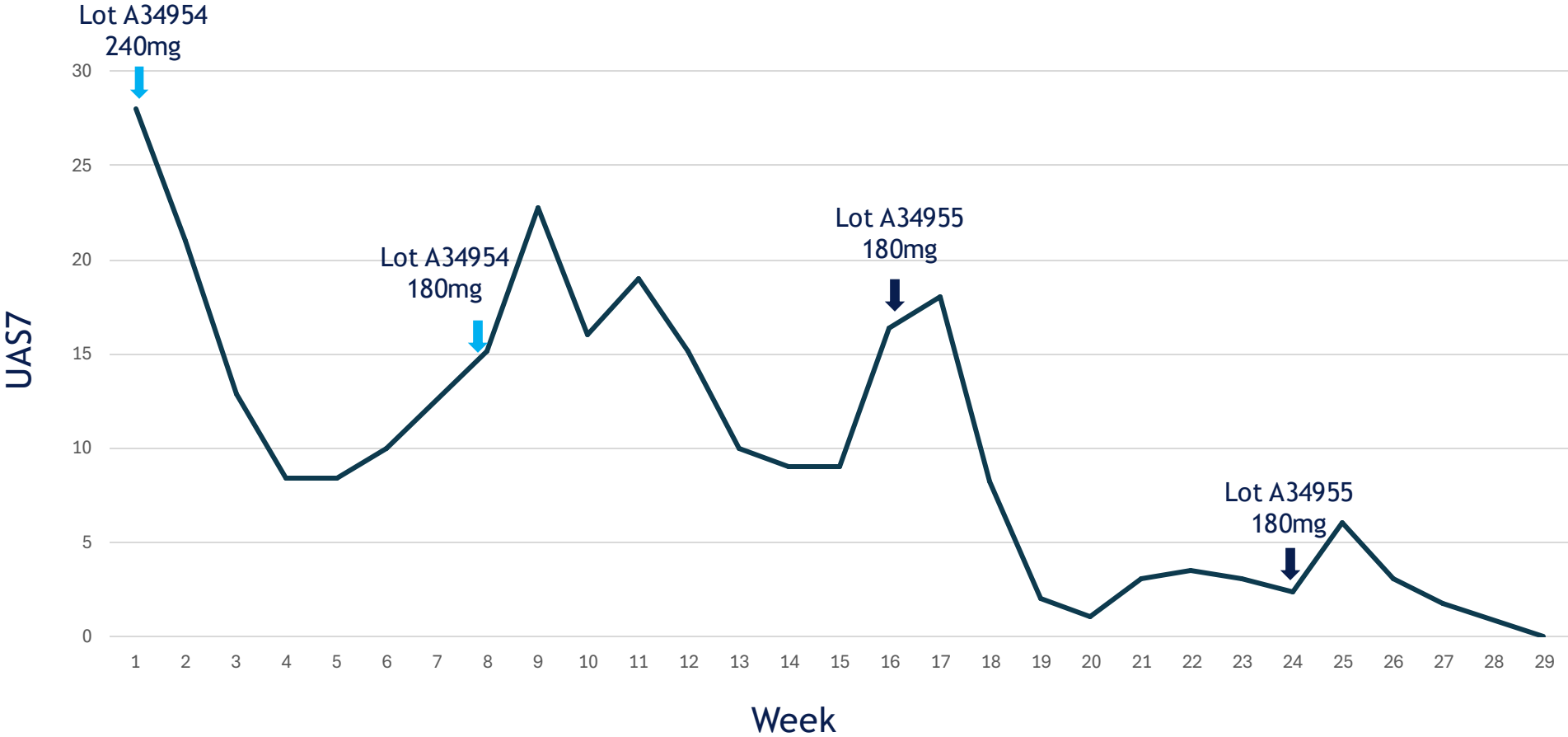
No Incremental Efficacy Observed On New DP Lot in 8 of 9 Patients Redosed

All patients received 240mg first dose, 7 of 10 Cohort 8 & 9 US patients switched to different lot by wk16



Cohort 9: Single Late Responder Achieved WC Disease After 3rd dose

20-point reduction in UAS7 achieved with initial DP Lot



Briquilimab Was Well Tolerated and Demonstrated a Favorable Safety Profile



Number of Participants With	Pooled 120mg Briquilimab (N=8) n (%)	Pooled 180mg Briquilimab (N=14) n (%)	240mg Briquilimab (N=6) n (%)	360mg Briquilimab (N=5) n (%)	240mg Q8W Briquilimab (N=6) n (%)	240mg D1 180mg Q8W Briquilimab (N=7) n (%)	Total Pooled Briquilimab (N=58) ⁵ n (%)	Pooled Placebo (N=19) n (%)
Any TEAE	8 (100)	10 (71.4)	6(100)	4 (80)	3 (50.0)	5 (71.4)	42 (72.4)	11 (57.9)
Any Treatment-Related Serious TEAE	0 (0)	1 (7.1) ¹	0 (0)	0 (0)	0 (0)	0 (0)	1 (1.7) ¹	0 (0)
Any TEAE Leading to Discontinuation of IP	0 (0)	1 (7.1) ¹	0 (0)	0 (0)	0 (0)	1 (14.3) ²	2 (3.4) ^{1,2}	0 (0)
Any Treatment-Related TEAE ≥ Grade 3	0 (0)	0 (0.0)	1 (16.7) ³	0 (0)	0 (0)	0 (0)	1 (1.7) ³	1 (5.3) ⁴

Most commonly reported AEs (≥5 participants): nasopharyngitis, neutrophil count decrease, taste disorder, fatigue, hair color change, URTI

¹Single participant, 180mg Q8W, CoFAR grade 2 hypersensitivity reaction

²Single participant, 240mg D1 180mg Q8W, CoFAR grade 2 hypersensitivity reaction

³Single participant, 240mg, CTCAE grade 3 neutrophil count decrease, resolved in 14 days

⁴Single participant, placebo, CTCAE grade 3 bronchitis

⁵Total pooled briquilimab includes all cohorts shown + 10mg (n=3), 40mg (n=3), and 80mg (n=6)

Data cutoff: Nov 13, 2025

Safety/Tolerability Observations Possibly Related to KIT Blockade Were Generally Limited to Low Grade Events

Majority resolved during repeat dosing and none resulted in discontinuations

Adverse Event as reported term	Pooled 120mg Briquilimab (N=8) n (%)	Pooled 180mg Briquilimab (N=14) n (%)	240mg Briquilimab (N=6) n (%)	360mg Briquilimab (N=5) n (%)	240mg Q8W Briquilimab (N=6) n (%)	240/180 mg Q8W Briquilimab (N=7) n (%)	Total Pooled Briquilimab ⁴ (N=57) n (%)	Pooled Placebo (N=19) n (%)
Hair color changes	1 (12.5)	2 (14.3)	0 (0)	0 (0)	1 (16.7)	0 (0)	5 (8.8)	1 (5.3)
Skin discoloration	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (5.3)
Taste change/Hypogeusia	1 (12.5)	1 (7.1)	3 (50)	2 (40)	0 (0)	2 (28.6)	10 (17.5) ¹	1 (5.3)
Neutrophil count decreased ⁴	2 (25)	3 (21.4)	5 (83.3)	2 (40)	0 (0)	2 (28.6)	14 (24.6) ²	2 (10.5)

¹ Median time to resolution of Taste change/Hypogeusia observed was 31 days

² Median time to resolution of Neutrophil count decreases observed was 15 days

³ Total pooled briquilimab includes all cohorts shown + 10mg (n=3), 40mg (n=3), and 80mg (n=6)

⁴ Includes PTs of neutrophil count decreased, differential white cell count, white blood cell count decreased

Note: Effects on spermatogenesis will be the subject of future study

Data cutoff: Nov 13, 2025

Anomalous efficacy does not appear to be the result of any issue with the DP or study conduct

- No issues or deviations noted in the testing done on DS and DP throughout the supply chain
- Redosing Cohort 8 & 9 patients with different DP lot did not drive a different outcome
- No protocol deviations, no issues with site training, no issues with study conduct

Unexpected efficacy results appear to largely be the result of patient selection

- Based on KOL panel review of the totality of the data, including the data on patients redosed with replacement DP lot, their feedback is as follows:
 - 9 of 10 patients that did not respond do not appear to have CSU
 - Not uncommon as CSU is a diagnosis by exclusion, other CSU studies have shown 25-30% of patients are incorrectly diagnosed

KOL panel recommendations to ensure quality patient selection

- Ensure sites utilized have a certified Immunologist/Dermatologist with a history of diagnosing and treating CSU patients
- Expanded review of patient history during screening including visual records of lesions
- Larger sample size in future studies should mitigate impact of non-MC driven CSU patients



Briquilimab in Allergic Asthma

Dr. Daniel Adelman, Acting CMO Jasper Therapeutics

Briquilimab Phase 1b/2a ETESIAN Study in Allergic Asthma

Double-blind, placebo-controlled, single dose, challenge study



Screening/Eligibility

- Diagnosis of stable allergic asthma
- Baseline FEV₁ 70% of predicted value
- Positive methacholine challenge at baseline
- 18-65 years of age

Study Operations

- Lead Investigator: Paul O’Byrne, MD
- 6 centers in Canada
- N = 17 patients
- Study terminated early for administrative reasons

Key Assessments

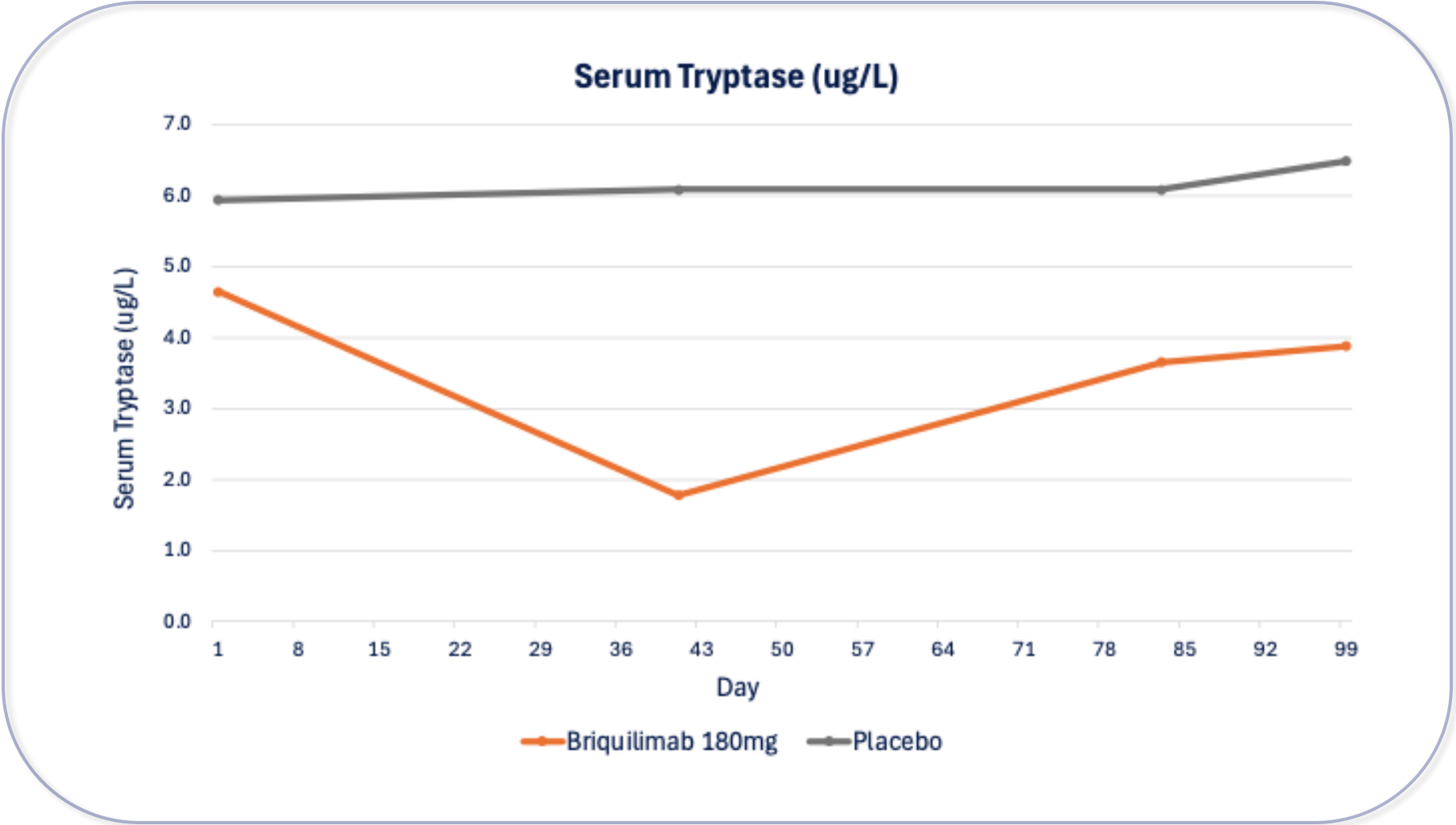
- Early & Late Asthmatic Response: % decrease in FEV₁ from baseline
- Changes in Airway Hyperresponsiveness: Methacholine PD20 24 hours after allergen challenge
- Mast Cell Depletion & Recovery: Serum Tryptase
- Safety: TEAEs, SAEs

Allergen Challenge & Methacholine PD20 Measured at 6 weeks and 12 weeks

Patients (Randomization)	Dose	Timeline											
n=17 (1:1)	180 mg (Single Dose)	Dosing		Allergen Challenge				Allergen Challenge		Safety Follow-Up			
		Week -2	Day 0	Week 6				Week 12		Week 14			

Single 180mg Briquilimab Dose Drives Serum Tryptase Reductions at 6 Weeks

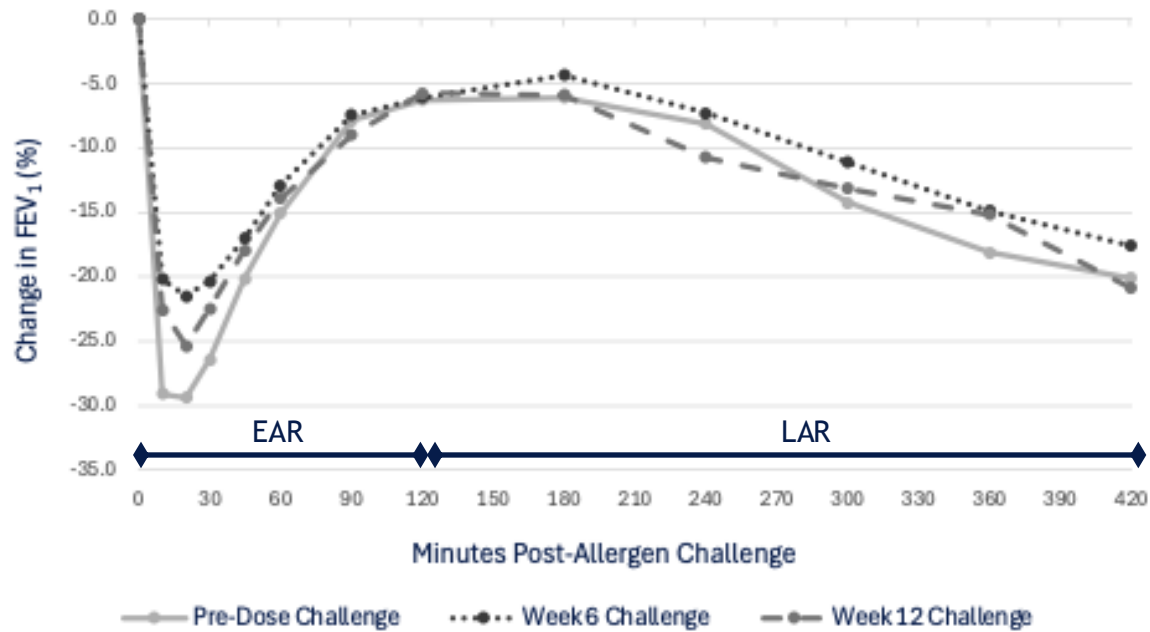
PK/PD effect consistent with 180mg briquilimab activity observed in other studies



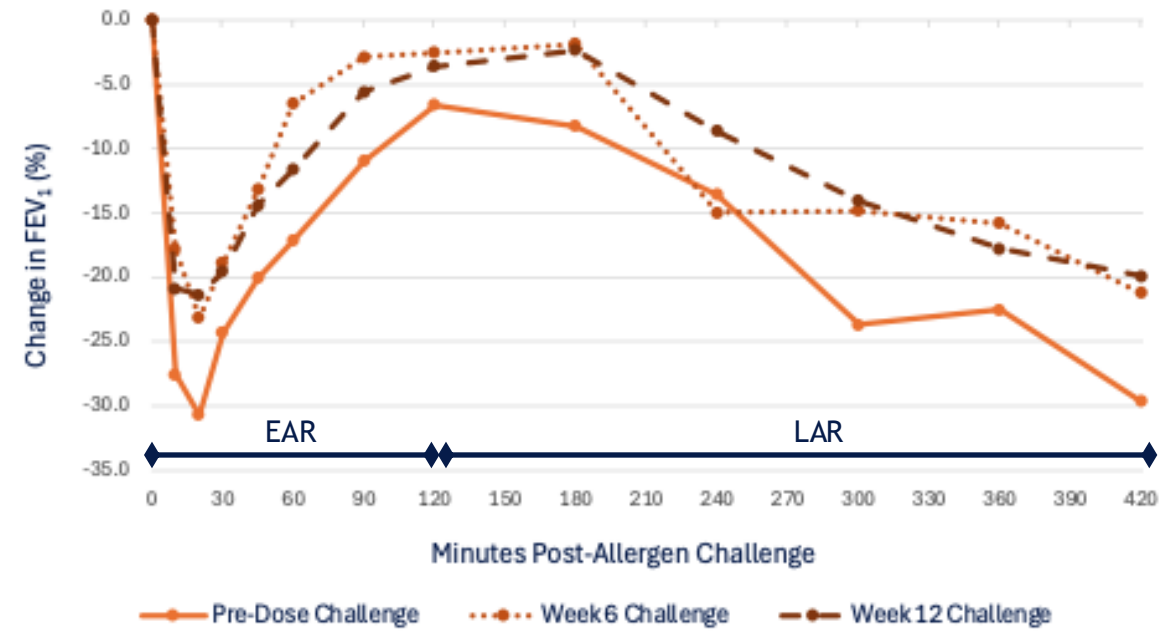
Briquilimab Mitigates the Effects of Allergen Challenge on FEV₁ Response

Robust and sustained impact of mast-cell depletion on asthmatic response at 6 and 12 weeks

Placebo

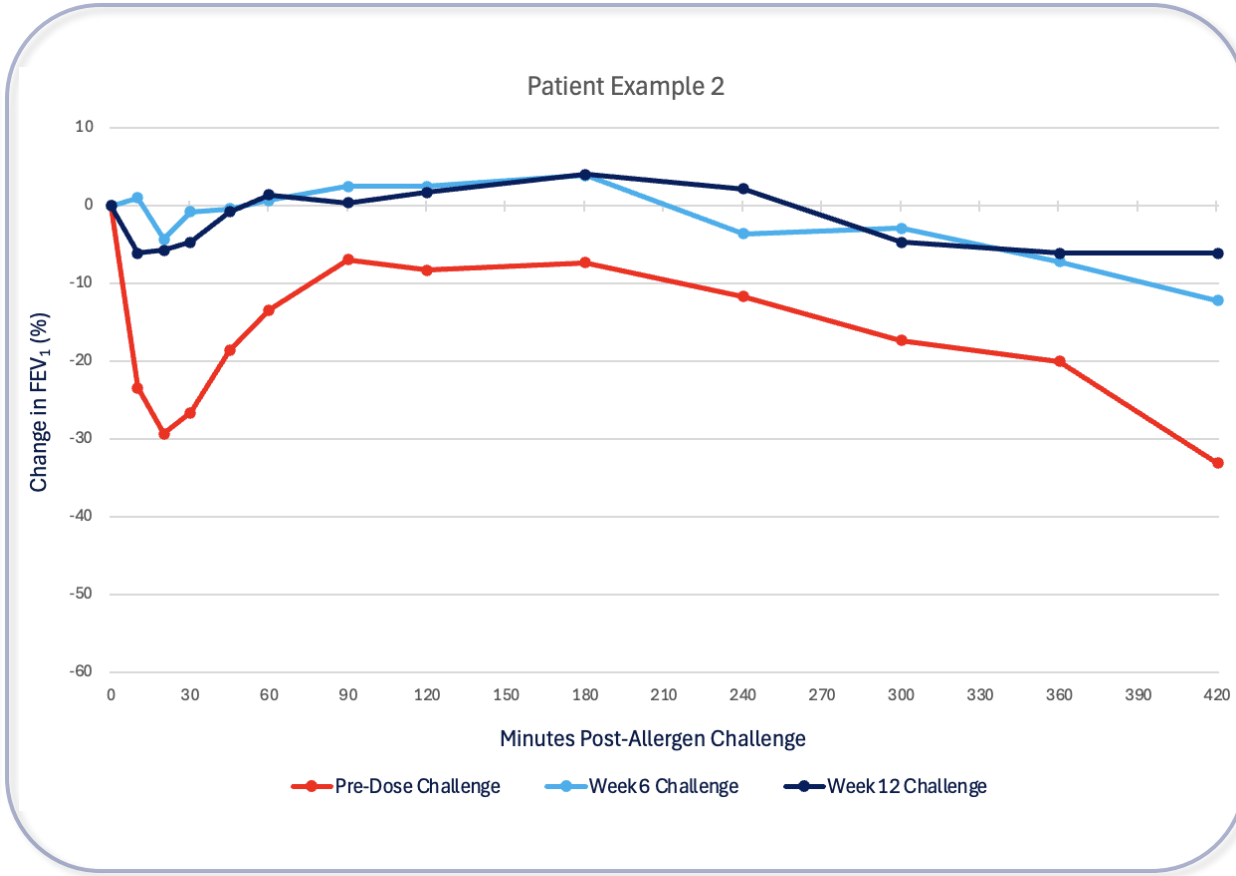
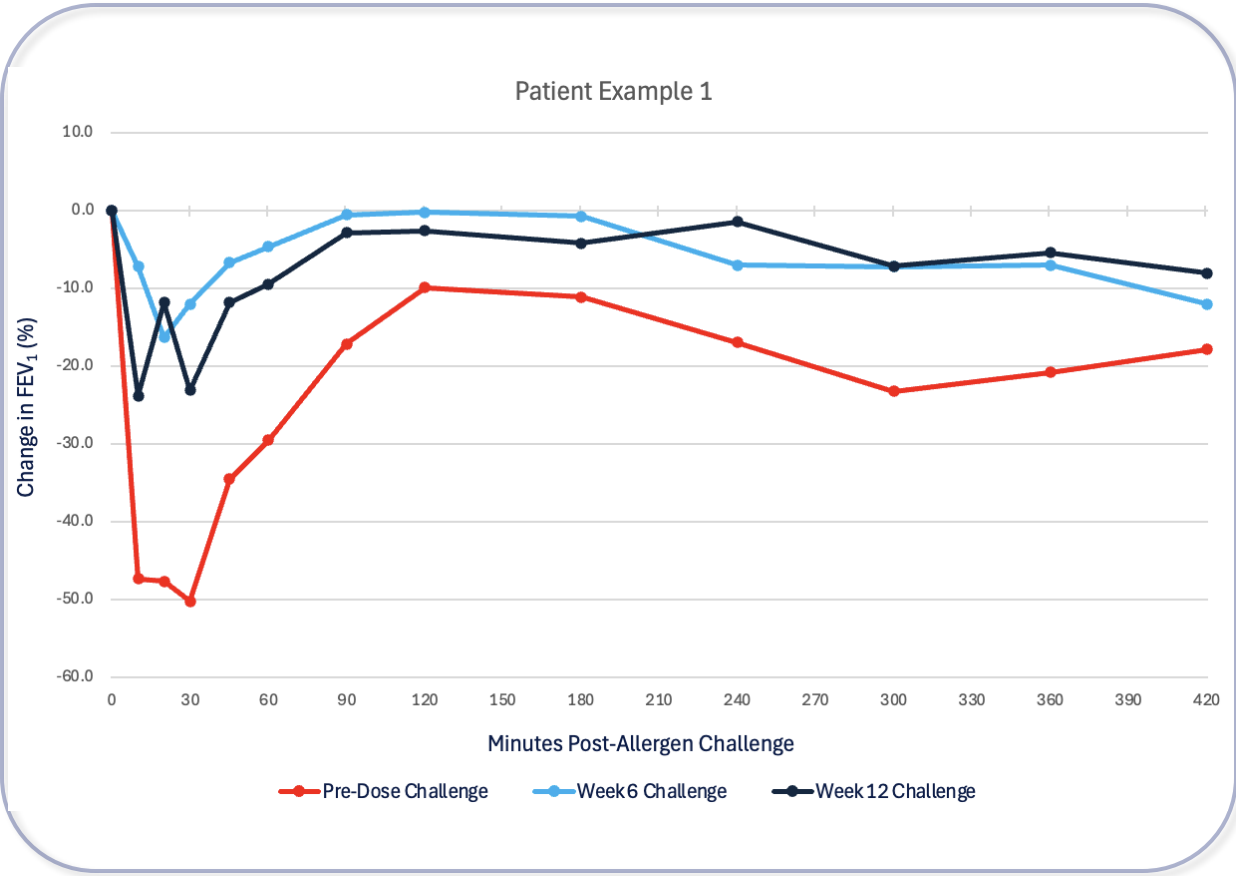


Briquilimab



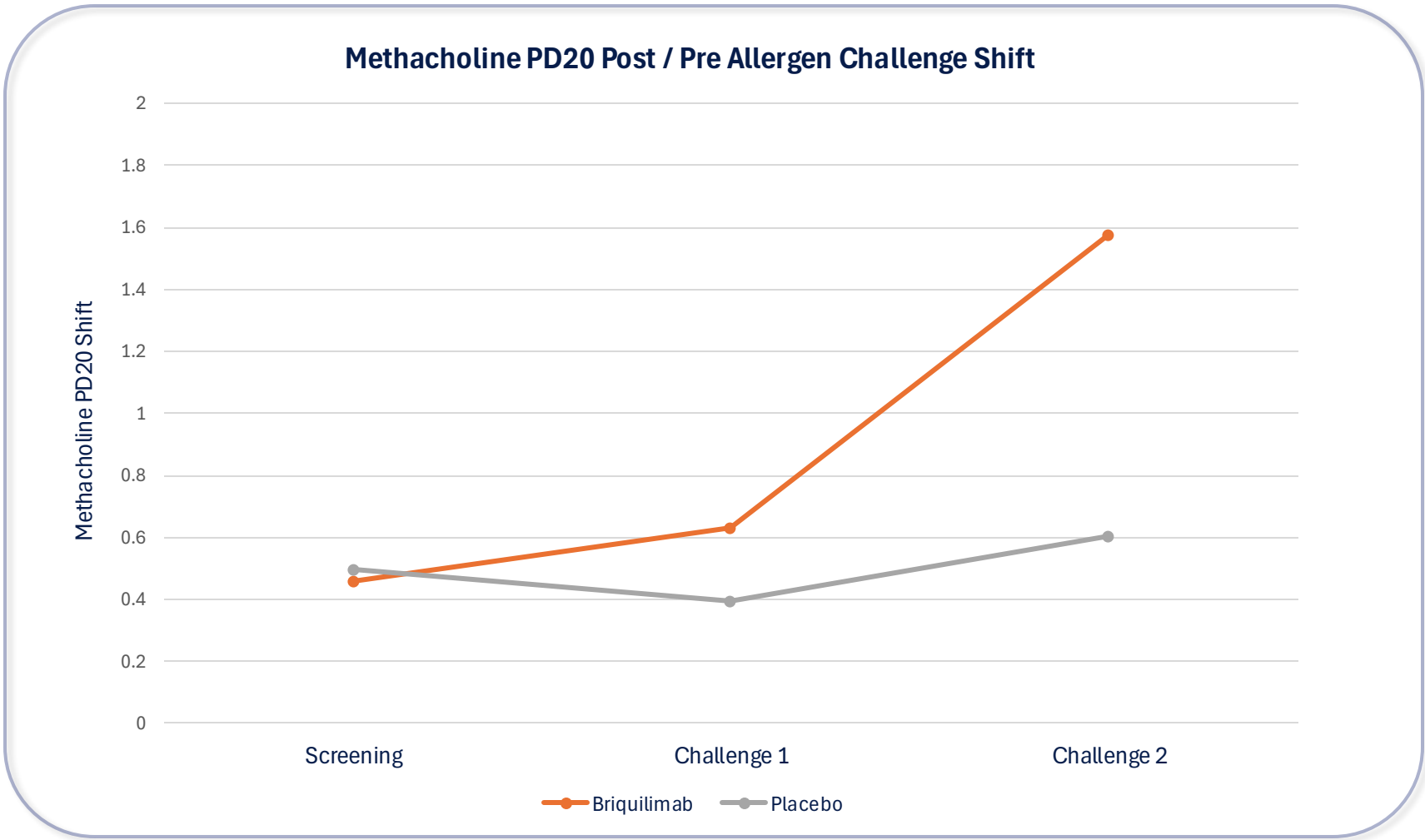
Patient Examples - SD 180mg Briquilimab Dose

Substantial improvements in EAR & LAR observed in multiple patients



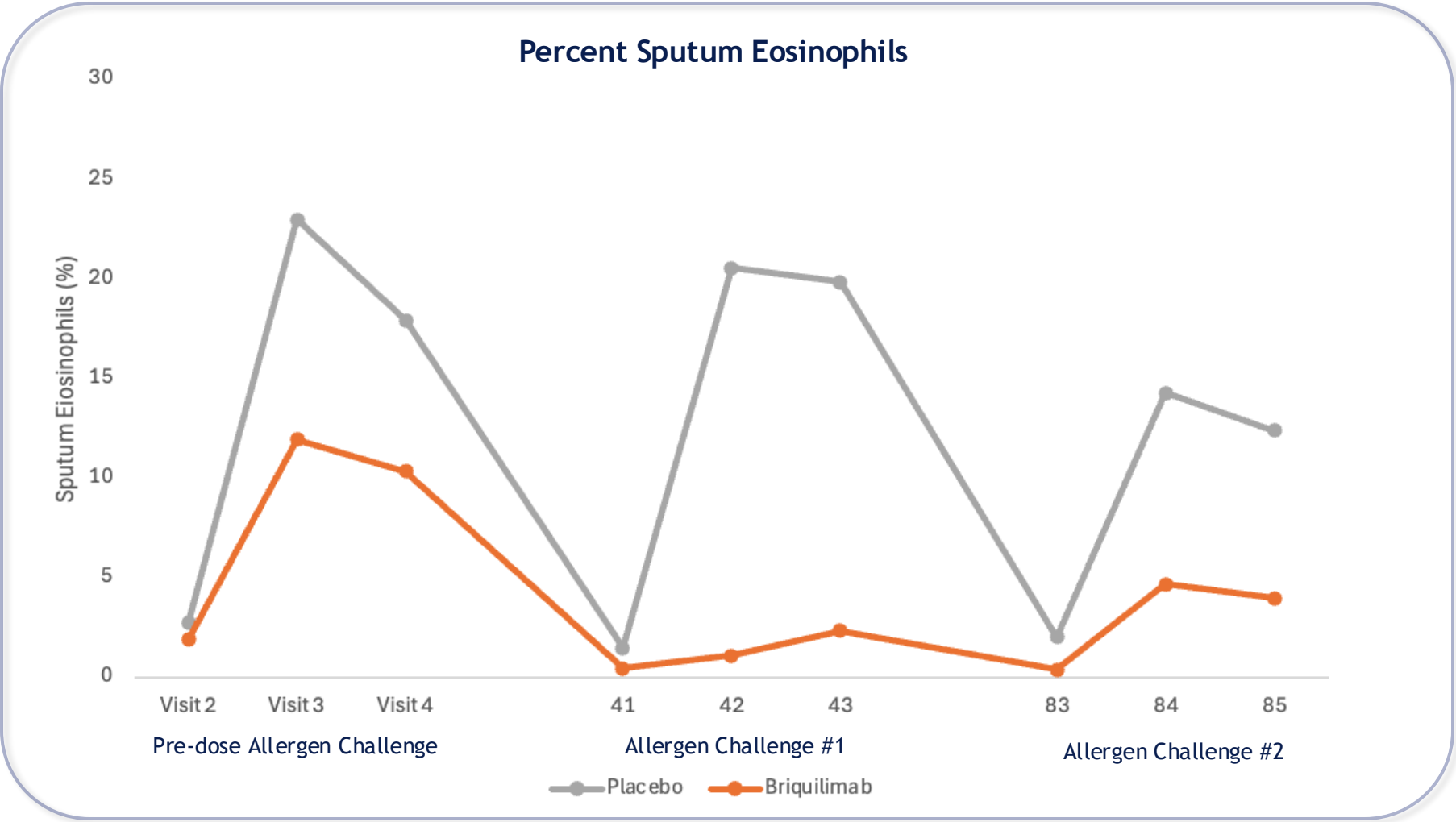
Briquilimab Dramatically Reduced Airway Hyper-Responsiveness

Increased concentration of methacholine needed to drive 20% drop in FEV1 (PD20)



Sputum Eosinophil Response Suppressed by Briquilimab

Substantial eosinophil reduction at both 6-week and 12-week allergen challenge timepoints



Preliminary Data Shows Briquilimab Was Well Tolerated with a Favorable Safety Profile in the ETESIAN Study

Number of Participants With	Briquilimab 180mg Single Dose (N=9) n (%)	Placebo (N=8) n (%)
Any TEAE	5 (55.6)	3 (37.5)
Any Serious Treatment-Related TEAE	0 (0)	0 (0)
Any TEAE Leading to Discontinuation of IP	0 (0)	0 (0)
Any Treatment-Related TEAE $\geq$ Grade 3	0 (0)	0 (0)

A single placebo subject had an unrelated hypersensitivity reaction, CoFAR grade 2
A single briquilimab subject had related rash and pruritus, both CoFAR grade 1

Safety Observations Possibly Related to KIT Blockade Were Limited to Grade 1 Events

Adverse Event as reported term	Total Pooled Briquilimab (N=9) n (%)	Placebo (N=8) n (%)
Hair color changes	0 (0)	0 (0)
Skin discoloration	0 (0)	0 (0)
Taste change/Hypogeusia	1 (11.1) ¹	0 (0)
Neutrophil count decreased	1 (11.1) ²	0 (0)

¹ CTCAE grade 1 dysgeusia resolved after 55 days

² CTCAE grade 1 white blood cell count decreased, resolving at time of study completion

Data cutoff: Oct 17, 2025

First time a potent KIT-specific therapeutic targeting mast cells has demonstrated potential for the treatment of asthma

PK/PD demonstrated deep & sustained biologic activity in key biomarkers, including:

- Serum tryptase
- Sputum eosinophils

Robust improvements observed in both aspects of the challenge study:

- Improvement in mean FEV1 response seen at week 6 and week 12 in allergen challenge
- Reductions in airway hyper-responsiveness observed in the methacoline challenge

Data suggest that mast cells play a central role in airway inflammation

- Given that the mast cell may be a central actor in both T2 high and T2 low disease, further development in the broader asthma population is warranted
- Next steps being evaluated, including potential dose-ranging/repeat dose studies in asthma



Next Steps

Ron Martell, CEO

Program Status and Next Steps

Briquilimab development in mast-cell driven diseases continues to advance in multiple indications



CSU - Briquilimab continues to demonstrate rapid onset, deep clinical response and favorable safety profile

- More than 24pt drop in UAS7 with 82% CR and 91% WC disease by week 4 with single dose (240mg SD & 360mg SD, n=11)
- Highly effective in OLE study at 180mg Q8W with 73% CR and 82% WC disease at 12 weeks (n=11)
- Continued favorable safety profile, repeat dose of 240mg Q8W and 240mg/180mg Q8W were generally well tolerated

CSU - Additional BEACON and OLE data expected in 1H Q1 2026 will enable Phase 2b dose selection

- Efficacy and safety data on additional patients enrolled in C8 (240mg Q8W) & C9 (240mg → 180mg Q8W)
- 24+ weeks of safety data on original patients enrolled in C8 and C9
- 20+ weeks of efficacy and safety data on ~40 CSU patients in OLE study (180mg Q8W)
- Consistent PK/PD profile will enable rapid and robust population exposure analysis and dose selection

CindU - Multi-dose data in CIndU expected in Q1 2026 data update

- 15+ weeks of efficacy and safety data on ~15 CIndU patients in OLE study (180mg Q8W)

Asthma - ETESIAN data provide strong proof of concept for briquilimab MOA in asthma

- The initial results demonstrate the potential to reduce both airway hypersensitivity and the release of eosinophils
- Both of which are key factors in managing chronic asthma and reducing exacerbations.
- Jasper evaluating next steps to advance briquilimab in chronic asthma

Jasper Therapeutics

The background of the slide features several faint, blue-tinted molecular structures. These include a large, complex protein-like structure in the lower-left quadrant and a more elongated, branched structure in the upper-right quadrant. The overall aesthetic is scientific and modern.

NASDAQ: JSPR December 2025

