Jasper Therapeutics

JASPER THERAPEUTICS

Corporate presentation
July 2025

Safe Harbor Statements

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Interim BEACON and OLE study results continue to demonstrate potential for differentiated efficacy and safety profile in CSU

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

- More than 25pt drop in UAS7 with 78% CR and 89% WC disease by week 4 with single dose (240mg SD & 360mg SD, n=9)
- Deep reductions in serum tryptase to LLOQ sustained through 4 weeks (240mg SD & 360mg SD)
- Highly effective in OLE study at 180mg Q8W with 73% CR and 82% WC disease at 12 weeks (n=11)
- Continued favorable safety profile

240mg Q8W & 240mg/180mg Q8W confounded by potential issues with one drug product lot

- 10 of 10 patients dosed from new drug product lot ("Lot A34954") showed no UAS7 reductions and modest reductions in serum tryptase
- 2 of 2 patients confirmed to have been dosed with different lot also used in OLE achieved rapid complete responses and deep tryptase reductions
- Investigation on potential issue with lot A34954 is ongoing, results expected in the coming weeks

Next steps to address lot issue and generate multi-dose data for Phase 2b dose selection

- Replacing all lot A34954 material with second lot for continued dosing of 240mg Q8W & 240mg/180mg Q8W patients
- Adding 10 - 12 patients across the two cohorts to provide additional data with replaced drug product
- Additional data from these two cohorts expected in Q4 2025

BEACON TRIAL

Briquilimab in Chronic Spontaneous Urticaria

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

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

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Screening/Eligibility

- CSU diagnosis ≥ 6 mos.
- UAS7 ≥ 16
- 18+ years
- H1-antihistamine-failed
- Inadequate response to omalizumab

Study Operations

- **US Lead: Tom Casale, MD**
- **EU Lead: Martin Metz, MD**
- ~30 sites in the US & EU

Key Assessments

- **Disease Scores:** UAS7, UCT
- **Safety:** TEAEs, SAEs
- **PK**
- **Mast Cell Depletion & Recovery:** Serum Tryptase, Skin Biopsies

	Dose	Patients (Randomization)	Schedule
Open Label (n=6)	10mg	n=3	Weeks 0, 4, 12, 20
	40mg	n=3	
Double-Blind Placebo-Controlled (n=80)	80mg	n=8 (3:1)	Q8W
	120mg	n=6 (2:1)	Q8W
		n=6 (2:1)	Q12W
	180mg	n=10 (3:1)	Q8W
		n=9 (3:1)	Q12W
	240mg → 180mg	n=9* (3:1)	Q8W
	240mg	n=8* (3:1)	Q8W
		n=8 (3:1)	Single Dose
	360mg	n=8 (3:1)	Single Dose

*Includes Omalizumab Naïve participants

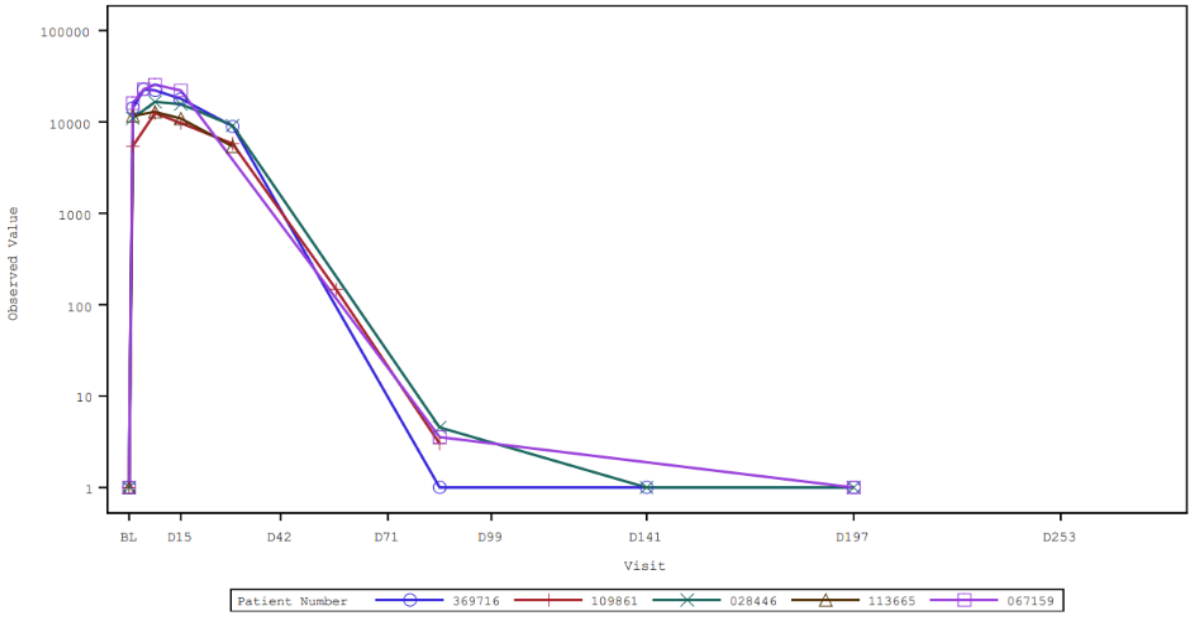
BEACON Single-Dose Cohorts

240mg SD & 360mg SD

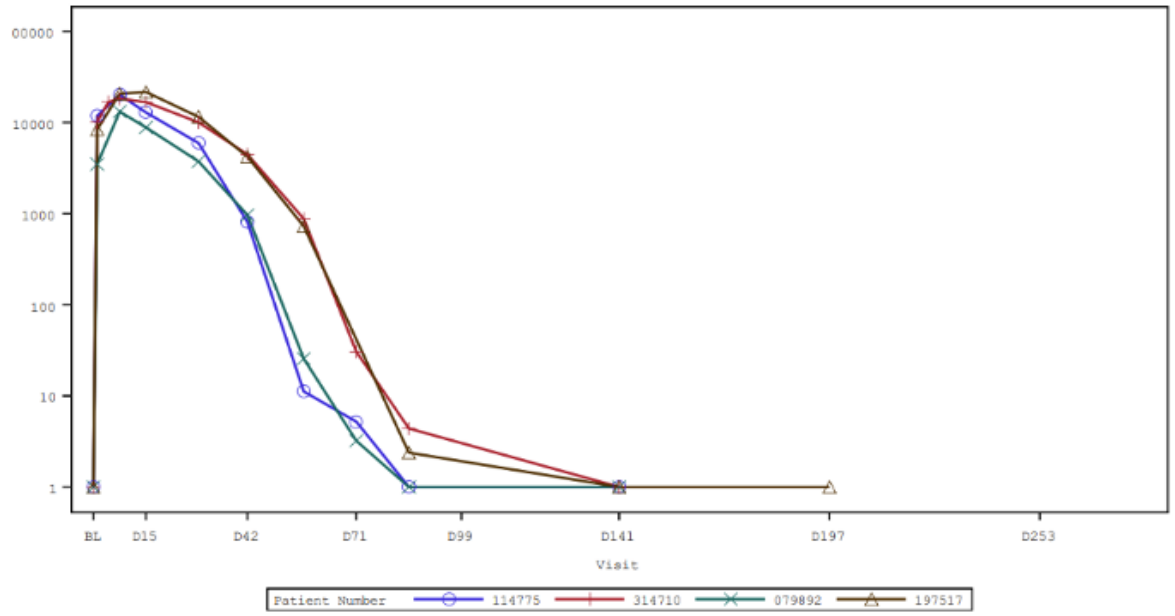
240mg SD and 360mg SD PK Concentration over Time

Rapid C-Max achieved around Day 5-8

240mg SD Cohort



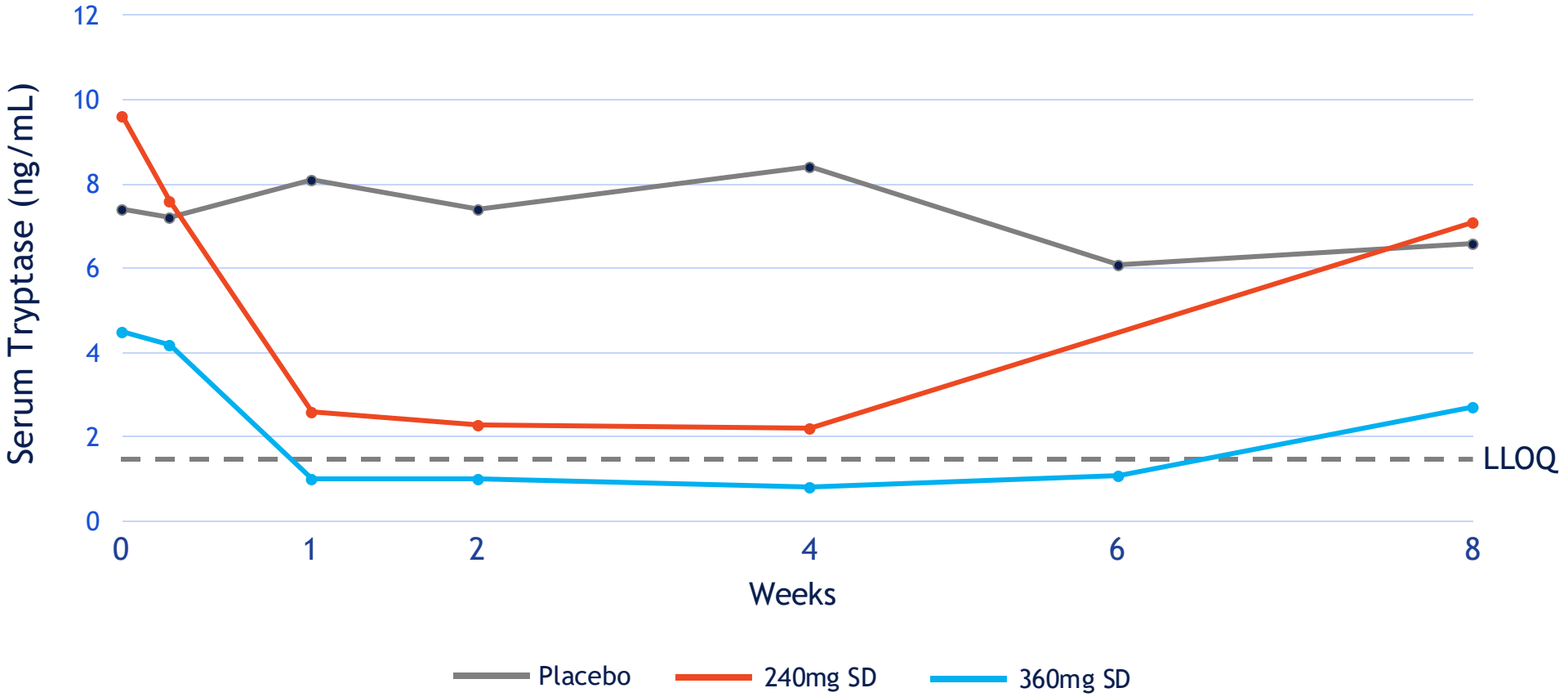
360mg SD Cohort



LOQ values are imputed to 1. ALQ values are imputed to 100,000. PK values are displayed in log10 scale.

Dose dependent reductions in serum tryptase

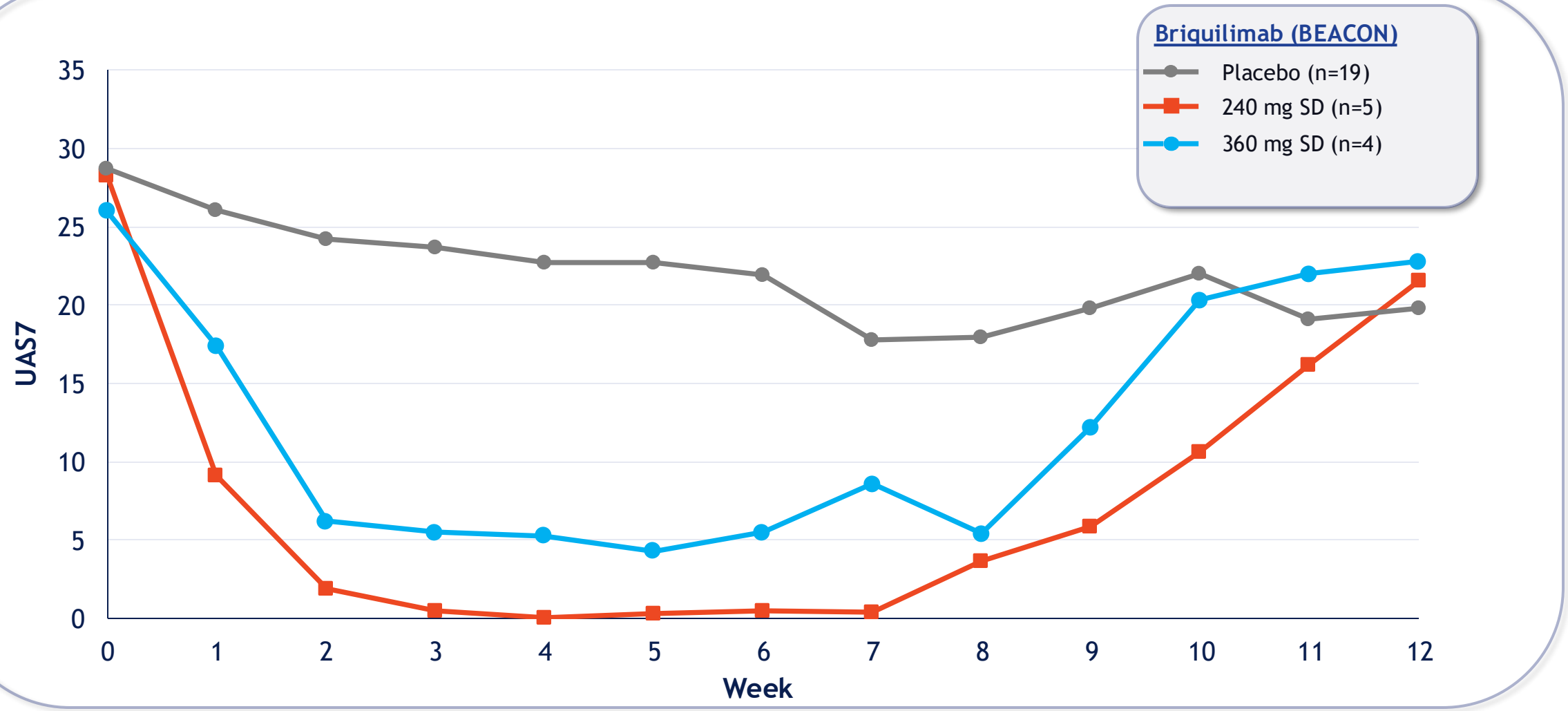
Reduction below 1.6ug/ml in 80% (8/10) single dose 240mg & 360mg participants by week 2



Values at LLOQ reported as 0.8ug/ml

BEACON Cohort 6 (240mg SD) and Cohort 7 (360mg SD)

89% (8 of 9) of patients achieving complete response following single dose



*Note: At Week 6 in the BEACON study, patients in the placebo arm were allowed rescue medications.

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BEACON Multi-Dose Cohorts

240mg Q8W & 240mg/180mg Q8W

BEACON Multi-Dose Cohorts (240mg Q8W & 240mg/180mg Q8W)

240mg Q8W & 240mg/180mg Q8W confounded by potential issue with one drug product lot

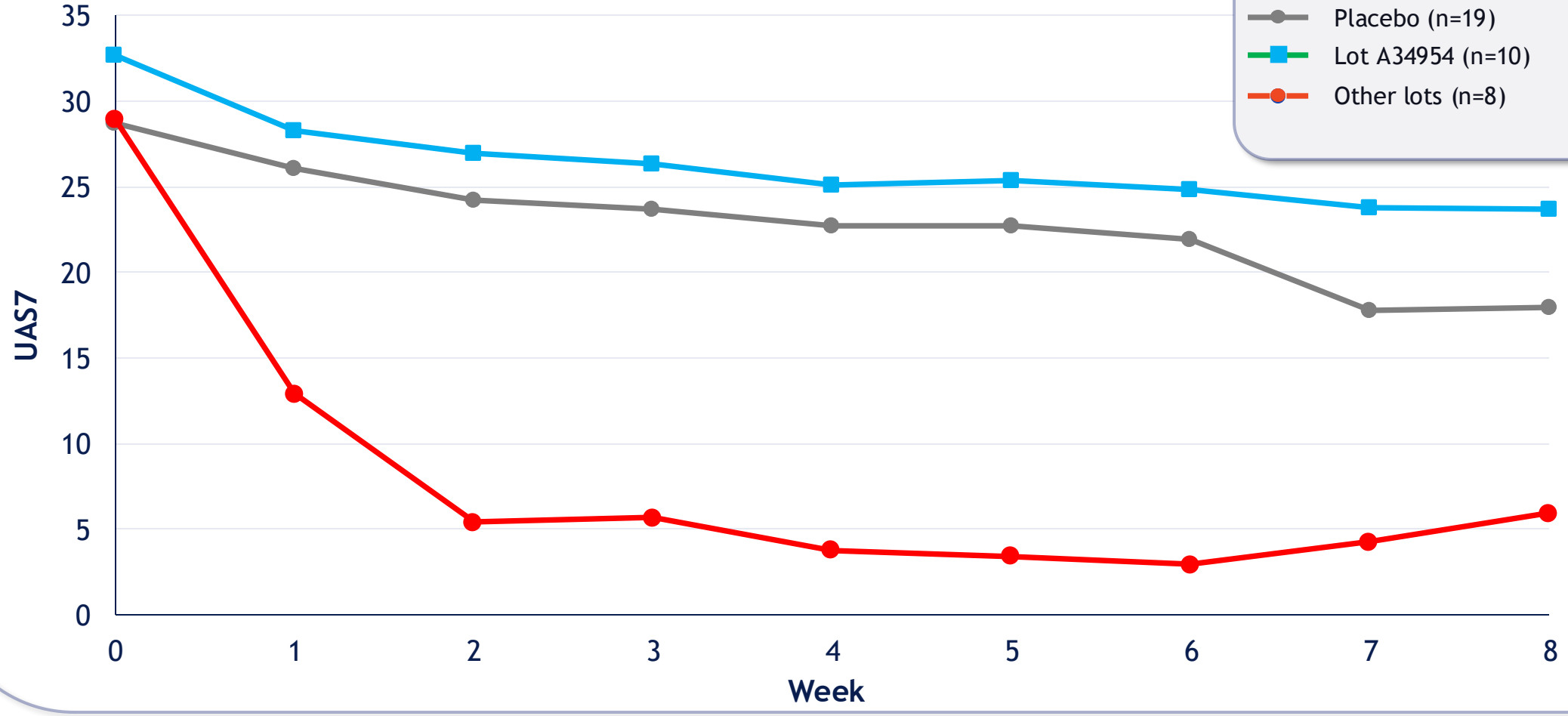
- 10 of 10 patients dosed from one drug product lot ("Lot A34954") showed no UAS7 reductions and modest reductions in serum tryptase
- 2 of 2 patients confirmed to have been dosed with different lot, also used in OLE study, achieved rapid complete responses and deep tryptase reductions
- PK achieved reasonable levels across both cohorts, consistent with 240mg SD & 360mg SD patients
- No new safety signals observed

Next steps:

- Investigation on potential issues with Lot A34954 is ongoing, results expected in the coming weeks
- Shipping drug product from the second additional lot to sites for dosing 240mg Q8W & 240mg/180mg Q8W patients
- Adding 10 - 12 patients across the two cohorts to provide additional data

240mg SD UAS7 Reductions by Drug Product Lot

No CRs in patients (0 of 10) dosed with Lot A34954 vs 88% (7 of 8) for those given other lots



*Note: At Week 6 in the BEACON study, patients in the placebo arm were allowed rescue medications.

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Safety

Briquilimab was well tolerated and demonstrated a favorable safety profile

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Number of Participants With	Pooled 120mg Briquilimab (N=8) n (%)	Pooled 180mg Briquilimab (N=14) n (%)	240mg Briquilimab (N=5) n (%)	360mg Briquilimab (N=5) n (%)	240mg Q8W Briquilimab (N=6) n (%)	240mg D1 180mg Q8W Briquilimab (N=7) n (%)	Total Pooled Briquilimab (N=57)[5] n (%)	Pooled Placebo (N=19) n (%)
Any TEAE	8 (100)	10 (71.4)	5 (100)	4 (80)	2 (33.3)	3 (42.9)	38 (66.7)	11 (57.9)
Any Treatment-Related Serious TEAE	0 (0)	1 (7.1)[1]	0 (0)	0 (0)	0 (0)	0 (0)	1 (1.8)[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 (3.5)[1,2]	0 (0)
Any Treatment-Related TEAE ≥ Grade 3	0 (0)	1 (7.1)[3]	0 (0)	0 (0)	0 (0)	0 (0)	1 (1.8)[3]	1 (5.3)[4]

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

[1]Single participant, 180mg Q8W, CoFAR grade 2 hypersensitivity reaction
[2]Single participant, 240mg D1 180mg Q8W, CoFAR grade 2 hypersensitivity reaction
[3]Single participant, 180mg Q12W, CTCAE grade 3 AE: neutropenia, unrelated - prior history of idiopathic neutropenia, thrombocytopenia
[4]Single participant, placebo, CTCAE grade 3 bronchitis
[5]Total pooled briquilimab includes 10mg (n=3), 40mg (n=3), and 80mg (n=6)

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=5) n (%)	360mg Briquilimab (N=5) n (%)	240mg Q8W Briquilimab (N=6) n (%)	240/180 mg Q8W Briquilimab (N=7) n (%)	Total Pooled Briquilimab (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)	2 (40)	2 (40)	0 (0)	2 (28.6)[1]	10 (17.5)[2]	1 (5.3)
Neutrophil count decreased	2 (25)	3 (21.4)	4 (80)	1 (20)	0 (0)	1 (14.3)[1]	11 (19.3)[3]	2 (10.5)

[1] Events observed in patients dosed with drug product lots other than Lot A34594
[2] Median time to resolution of Taste change/Hypogeusia observed was 31 days
[3] Median time to resolution of Neutrophil count decreases observed was 15 days

240mg SD & 360mg SD neutrophil counts generally stable with predictable reduction which subsequently resolved

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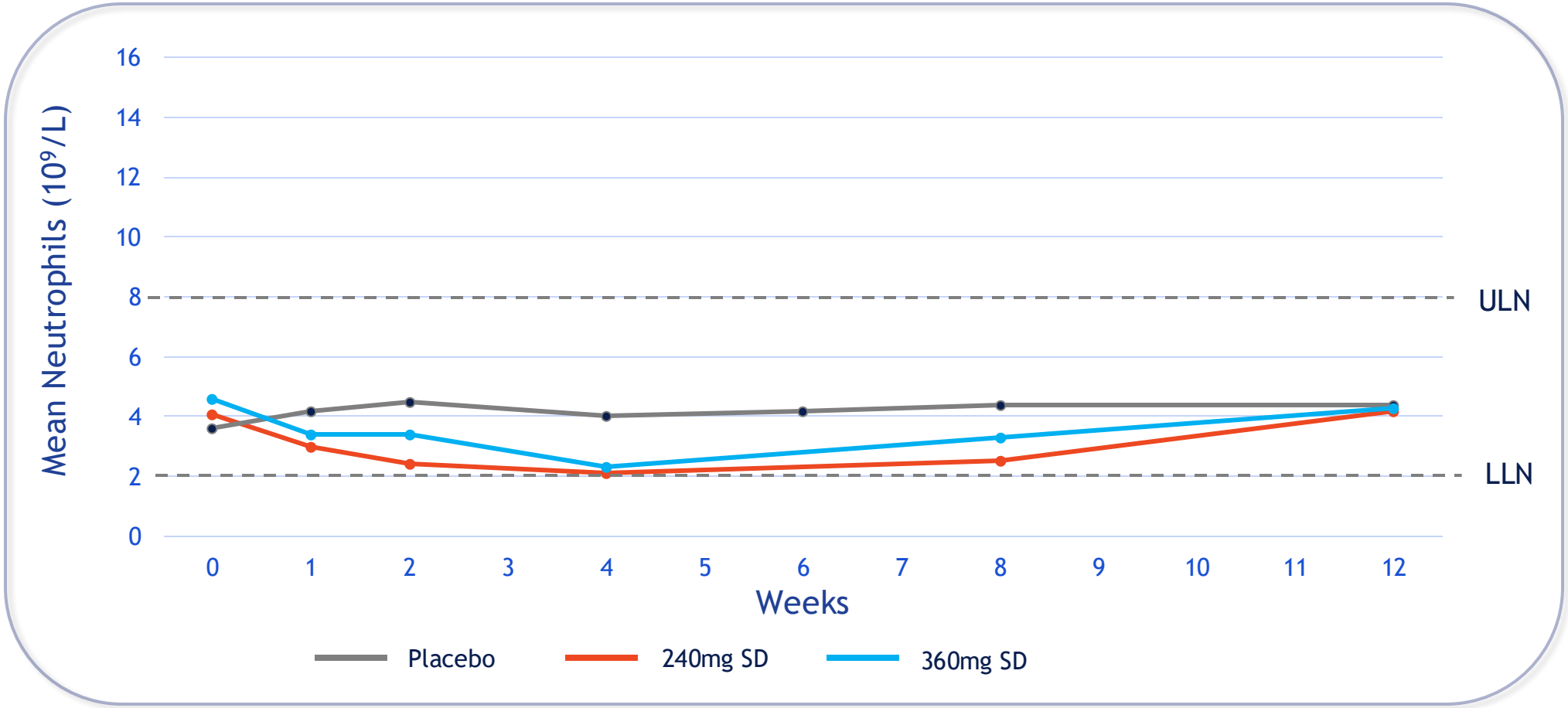
Mean time to resolution of 42 days, no discontinuations or dose delays due to reductions in neutrophil counts



Data analysis as of 3 July 2025

BEACON TRIAL

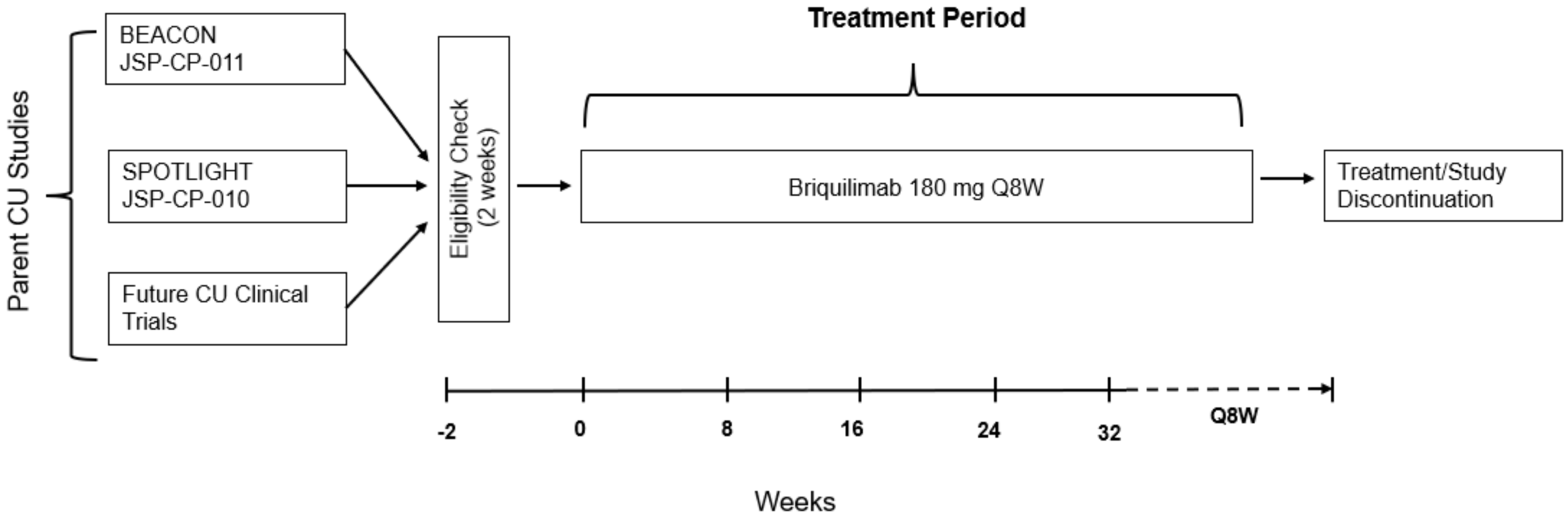
CSU Open Label Extension

180mg Q8W

Jasper Chronic Urticaria Open Label Study (JSP-CP-014)

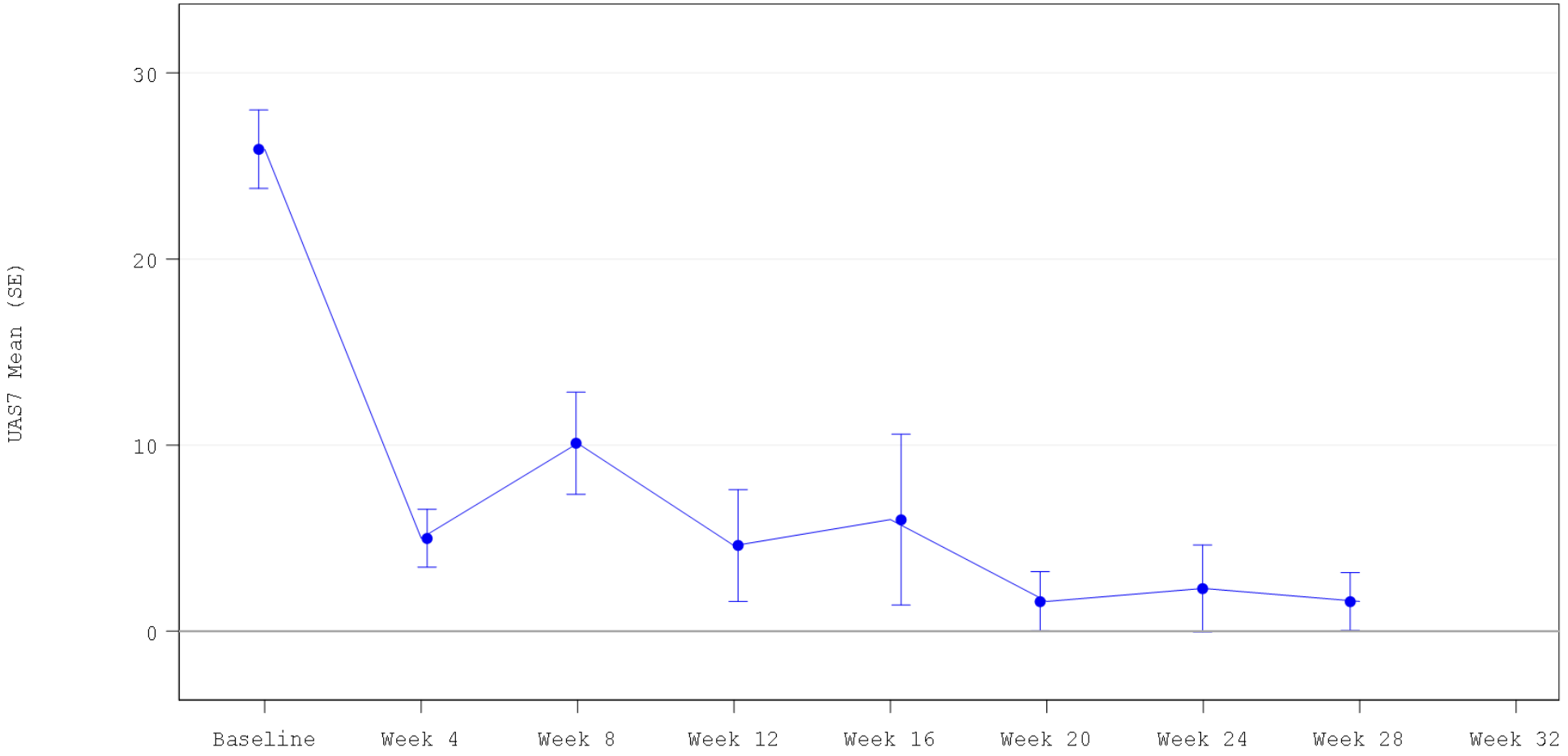
Generate additional safety, efficacy and durability for both CSU and CIndU programs, at 180mg Q8W dose schedule

Projected to add ~80 patients from the parent studies (Beacon and Spotlight)



Preliminary OLE 180mg Q8W Results

Rapid control as early as week 1, with >25 point mean change from baseline at week 12



Data cut-off 3 July 2025

Briquilimab was well tolerated and demonstrated a favorable safety profile in the OLE study

	Briquilimab 180mg Q8W (n=18)
Any adverse event*	16 (88)
Any serious adverse event	0 (0)
Any adverse event leading to discontinuation	0 (0)
Adverse event leading to death	0 (0)
Adverse event ≥ grade 3	1** (5.5)

*AEs occurring in ≥1 participant: COVID-19, dizziness, ear pain, gastroesophageal reflux, nausea, pneumonia
**Single participant, grade 3 leukopenia, 8 weeks after 4th dose, concurrent COVID infection, self-resolved while on study, participant achieved a CR at week 3 and maintains ongoing CR through 6 months

Safety/tolerability observations possibly related to KIT blockade in OLE

	Briquilimab 180mg Q8W (n=18)
Hair color change	0 (0)
Skin discoloration	0 (0)
Taste change/hypogeusia	4 (22.2)
Neutrophil count decreased	0 (0)
Leukocyte count decreased	1* (5.6)

*Single participant, grade 3 leukopenia, 8 weeks after 4th dose, concurrent COVID infection, self-resolved while on study, participant achieved a CR at week 3 and maintains ongoing CR through 6 months

BEACON TRIAL

Summary and Next Steps

Briquilimab continues to demonstrate potential for a meaningfully differentiated efficacy and safety profile in CSU

Potential drug product issue

- Investigation of Lot A34954 ongoing, results expected in the coming weeks
- Shipping fresh drug for subsequent dosing on current patients and adding 10-12 new patients across the two cohorts
- Data for re-dosed patients and the additional 10-12 patients planned to be available by Q4 2025
- Halting the ETESIAN study in asthma given study dosed using the lot under investigation (Lot A34594)

Single dose briquilimab continues to demonstrate rapid onset and deep clinical response

- More than 25pt drop in UAS7 with 78% CR and 89% WC disease by week 4 with single dose (240mg SD & 360mg SD, n=9)

Strong differentiated efficacy and safety in open label extension data at 180mg Q8W

- Deep and sustained UAS7 reductions observed in the OLE study at 180mg Q8W
  - 73% CR and 82% WC disease at 12 weeks (n=11)
- Safety data supports a positively differentiated safety profile at 180mg Q8W

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NASDAQ: JSPR July 2025

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