

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 8-K

CURRENT REPORT
PURSUANT TO SECTION 13 OR 15(d) OF THE
SECURITIES EXCHANGE ACT OF 1934

Date of Report (Date of earliest event reported): October 10, 2023

JASPER THERAPEUTICS, INC.
(Exact Name of Registrant as Specified in its Charter)

Delaware
(State or Other Jurisdiction
of Incorporation)

001-39138
(Commission File Number)

84-2984849
(IRS Employer
Identification No.)

2200 Bridge Pkwy Suite #102
Redwood City, California 94065
(Address of Principal Executive Offices) (Zip Code)

(650) 549-1400
Registrant's telephone number, including area code

N/A
(Former Name, or Former Address, if Changed Since Last Report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Securities registered pursuant to Section 12(b) of the Exchange Act:

(Title of each class)	(Trading Symbol)	(Name of exchange on which registered)
Voting Common Stock, par value \$0.0001 per share	JSPR	The Nasdaq Stock Market LLC
Redeemable Warrants, each whole warrant exercisable for one share of Voting Common Stock at an exercise price of \$11.50	JSPRW	The Nasdaq Stock Market LLC

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Item 7.01. Regulation FD Disclosure.

Jasper Therapeutics, Inc. (the “Company”) is furnishing an updated corporate presentation, attached as Exhibit 99.1 to this Current Report on Form 8-K (the “Corporate Presentation”), which the Company intends to post on the Company’s website. The Corporate Presentation is current as of October 10, 2023, and the Company disclaims any obligation to update this material in the future.

The information in this Item 7.01, including the Corporate Presentation attached hereto as Exhibit 99.1, is being furnished under Item 7.01 of Form 8-K and shall not be deemed “filed” for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), or otherwise subject to the liabilities of that section, and it shall not be deemed incorporated by reference in any filing under the Securities Act of 1933, as amended, or the Exchange Act, except as shall be expressly set forth by specific reference in such a filing.

Item 9.01. Financial Statements and Exhibits.

(d) Exhibits.

Exhibit No.	Description
99.1	Corporate Presentation, dated October 2023.
104	Cover Page Interactive Data File, formatted in Inline Extensible Business Reporting Language (iXBRL).

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

Date: October 10, 2023

JASPER THERAPEUTICS, INC.

By: /s/ Herb Cross
Name: Herb Cross
Title: Chief Financial Officer

October 2023



Jasper Therapeutics

NASDAQ: JSPR



Safe Harbor Statements

Forward-Looking Statements

This investor presentation and any accompanying oral presentation (together, this "Presentation") contain forward-looking statements. All statements other than statements of historical fact contained in this Presentation, including statements regarding the future opportunities and prospects of Jasper Therapeutics, Inc. (together with its subsidiary, "Jasper" or the "Company"), including milestones, potential regulatory filings and the anticipated timing thereof, patient enrollment, future timelines, business strategy, and plans and objectives for future operations, are forward-looking statements. Jasper has based these forward-looking statements on its estimates and assumptions and its current expectations and projections about future events. These forward-looking statements are subject to a number of risks, uncertainties and assumptions, including those contained in the "Risk Factors" section of the Company's Annual Report on Form 10-K for the year ended December 31, 2022, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K that the Company has subsequently filed or may subsequently file with the SEC. In light of these risks, uncertainties and assumptions, the forward-looking events and circumstances discussed in this Presentation are inherently uncertain and may not occur, and actual results could differ materially and adversely from those anticipated or implied in the forward-looking statements. Accordingly, you should not rely upon forward-looking statements as predictions of future events. Jasper undertakes no obligation to update publicly or revise any forward-looking statements for any reason after the date of this Presentation or to conform these statements to actual results or to changes in Jasper's expectations.

Industry and Market Data

Certain data in this Presentation was obtained from various external sources, and neither the Company nor its affiliates, advisers or representatives has verified such data with independent sources. Accordingly, neither the Company nor any of its affiliates, advisers or representatives makes any representations as to the accuracy or completeness of that data or undertakes any obligation to update such data after the date of this Presentation. Such data involves risks and uncertainties and is subject to change based on various factors.

Trademarks

The trademarks included herein are the property of the owners thereof and are used for reference purposes only. Such use should not be construed as an endorsement of the products or services of the Company.



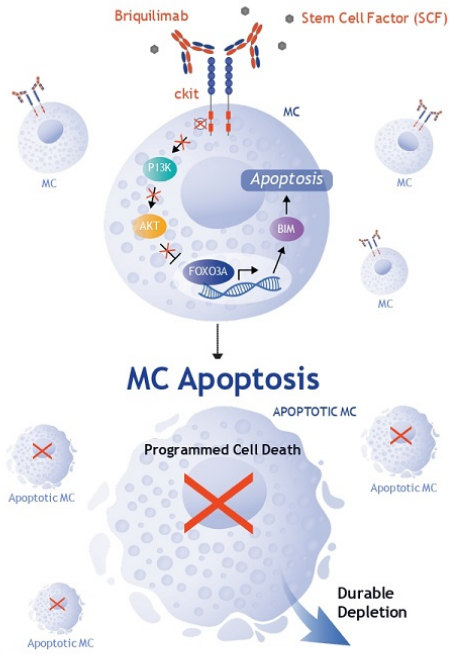
Briquillmab is an investigational drug and is not approved for any indication

Jasper is focused on the development of new therapeutics targeting significant unmet clinical needs in diseases driven by mast or stem cells

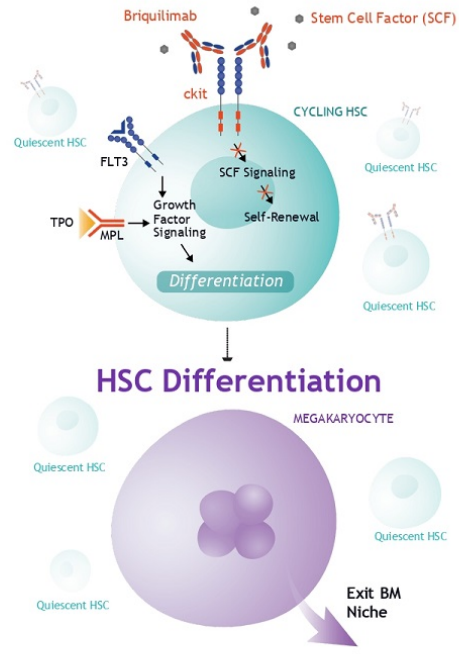
- Jasper is developing briquilimab across multiple mast cell mediated diseases, including Chronic Spontaneous Urticaria (CSU) and Chronic Inducible Urticaria (CIndU)
- Mast cells are potent inflammatory drivers in a number of allergic and dermatological diseases affecting millions of patients, with limited treatment options
- c-Kit inhibition is the only therapeutic mechanism that has been shown to significantly deplete mast cells, potentially delivering durable disease control
- Anti-c-Kit potency and PK properties of briquilimab allow for mast cell depletion while minimizing unwanted adverse effects on other cell types
- Multiple company-sponsored clinical studies of briquilimab with key data read outs expected in 2024

SCF blockade drives differential impact on mast cells and stem cells

MAST CELLS (MC)

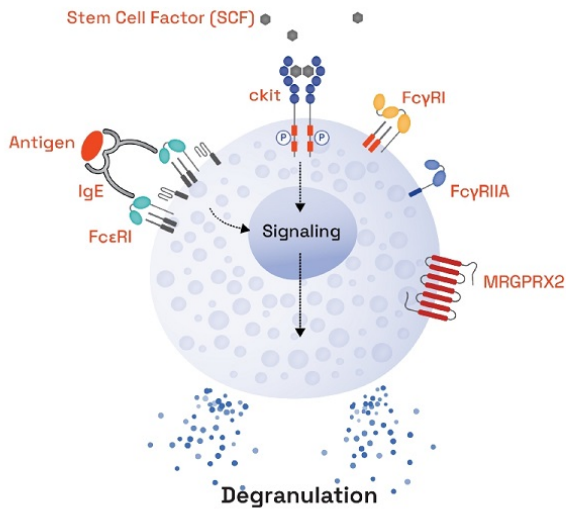


STEM CELLS (HSC)



Briquimab is an investigational drug and is not approved for any indication

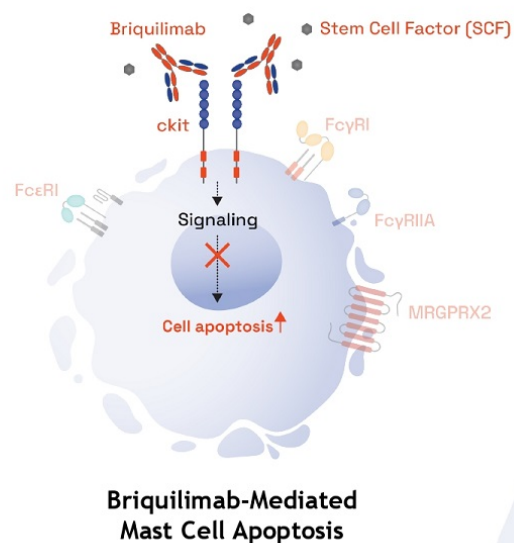
Mast cells are key drivers of the inflammatory response in a number of allergic and dermatologic diseases



- Mast cells are the most potent drivers of inflammatory response in skin, lungs and gut
- Activated mast cells release pro-inflammatory compounds that drive diseases such as Chronic Spontaneous Urticaria, Chronic Inducible Urticaria, Asthma and many others
- Current approved therapies targeting mast cell driven diseases have limited efficacy and limited durability of response

Depletion of mast cells by anti-c-Kit monoclonal antibody blockade is a novel approach to treat urticarias and other mast cell mediated diseases

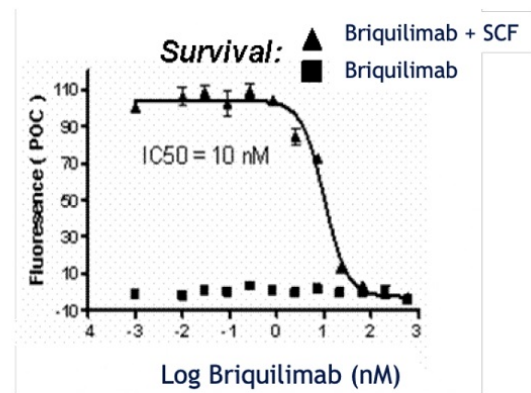
- SCF signaling through c-Kit prevents mast cells apoptosis via the Bim-mediated pathway¹
- Blockade of c-Kit signaling on mast cells leads to organized cell death and phagocytic clearance²
 - Partial c-Kit inhibition blunts mast cell activation
- Aglycosylated c-Kit antibodies avoid indiscriminate ADCC driven killing of other c-Kit expressing cells³
- Unwanted effects on other c-Kit expressing cells can be minimized by the recovery of c-Kit signaling once the mast cells are depleted



Briquilimab potently blocks c-Kit signaling leading to durable mast cell depletion

- Briquilimab is an aglycosylated IgG1 anti c-Kit antibody with high affinity to c-Kit ($K_d < 5\text{pm}$)
- Briquilimab potently blocks c-Kit signaling by blocking the SCF ligand binding site on the receptor and triggering apoptosis
- Mast cell depletion occurs within hours to days

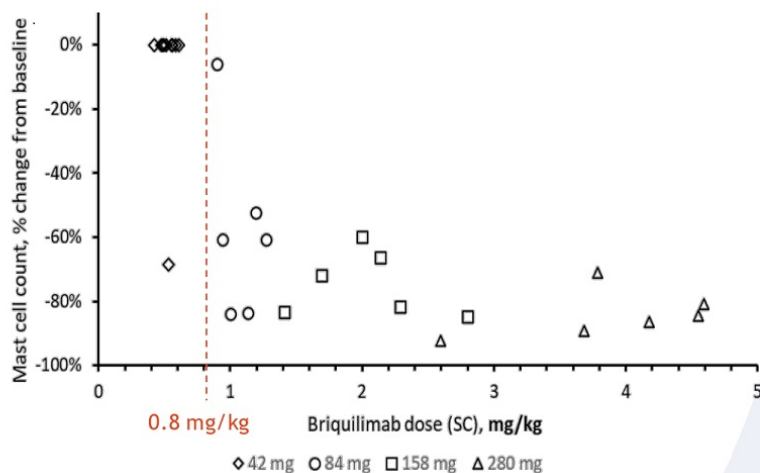
Mast cell survival assay¹



Briquilimab delivered with a single subcutaneous injection significantly depletes mast cells in humans above 0.8 mg/kg threshold

- A single subcutaneous dose above ~0.8 mg/kg potentially depletes mast cells in the skin of healthy volunteers
- Skin mast cell depletion highly correlated to serum briquilimab exposure after subcutaneous administration
- Significant depletion by day 7, with durable response lasting at least 29 days
- Once depleted with an anti-c-Kit antibody, skin mast cells take at least 3 months to recover, potentially leading to durable disease control²

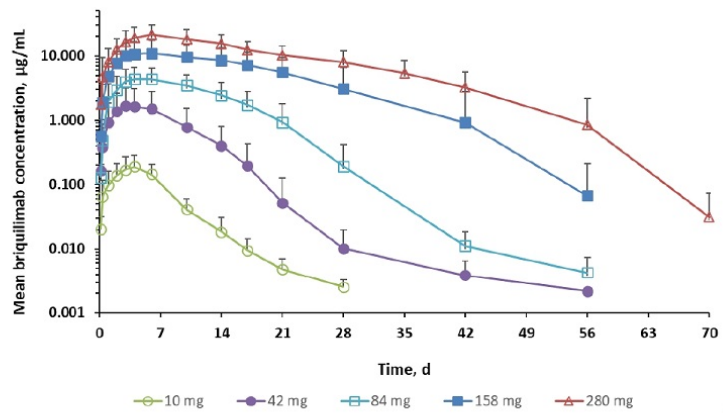
Skin mast cell depletion 4 weeks after single dose (≥ 42 mg)¹
Briquilimab Healthy Volunteer Phase 1 Subcutaneous Study



Briquilimab's favorable pharmacokinetic properties may enable optimal biologic dosing

- Briquilimab is designed to minimize unwanted c-Kit-related effects
- Subcutaneous dosing leads to predictable PK profile
- Low frequency of ADAs and do not appear to affect PK
- Drug elimination profile is favorable for minimizing off target effects
 - Clearance to allow for return of c-Kit signaling once the mast cells are depleted
 - No modifications to extend FcRn recycling

Pharmacokinetics (≥ 10 mg)¹
Briquilimab Healthy Volunteer Phase 1 Subcutaneous Study



Briquilimab safety profile to-date supports development in a wide variety of mast cell diseases

- c-Kit is expressed on mast cells, hemopoietic stem cells, melanocytes, taste buds, spermatogonia and Cajal (GI) cells, which all may be impacted by anti-c-Kit agents
- However, briquilimab's favorable elimination kinetics may allow for an improved safety profile on these other cell types

Relevant Preclinical & Clinical Experience

- NHP Chronic Toxicology Study
 - Paleness in skin & fur, depletion of colonic mast cells, decrease in reticulocytes and RBC mass, impact on spermatogenesis
 - All effects reversible at highest dose of 300 mg/kg weekly for 26 weeks
- Healthy Volunteer Subcutaneous Studies (n=77 briquilimab-treated)
 - Various Grade 1/2 AEs including headache, decreased neutrophils, injection site reaction, infection, urticaria, dysgeusia (280 mg only)
 - One Grade 3 allergic reaction reported



Briquilimab in Chronic Urticaria

Briquilimab Phase 1b/2a in patients with Chronic Spontaneous Urticaria (CSU)

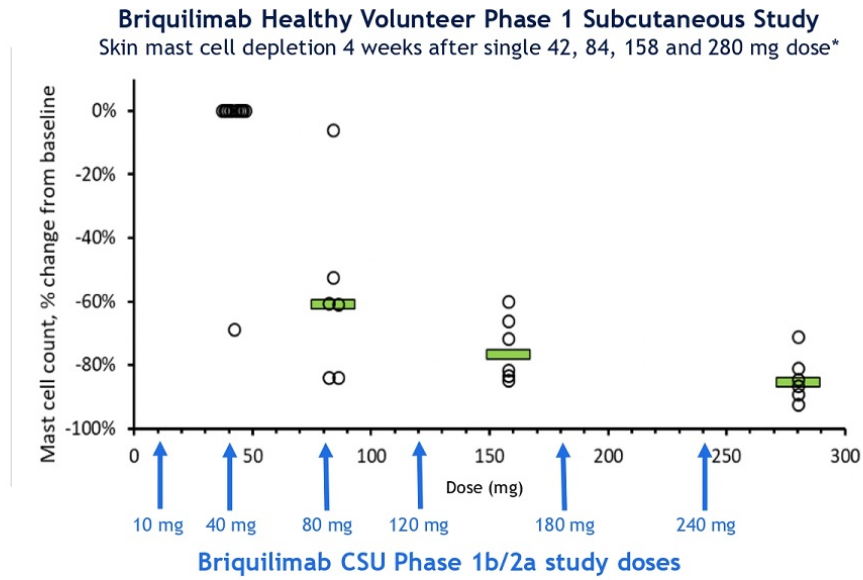
Study Goal: identify the optimal therapeutic doses & dosing frequency of subcutaneous briquilimab to inform future registrational trials

Key Objectives:

- Study multiple briquilimab dose levels, and intervals ranging from 4 to 12+ weeks to study the effects of:
 - Mast cell depletion and disease symptom/disease modifications
 - Briquilimab drug clearance
 - Time to return of disease symptoms
 - Briquilimab on other c-Kit expressing cell lineages
- Part 1 intended to identify the minimally effective dose
- Treat the highest unmet need population for clearest efficacy signal

Status: IND cleared (US), CTA submitted (EU), with FPI targeted by year-end 2023

Phase 1b/2a dose levels selected to generate data below and above mast cell depletion threshold observed in Phase 1 healthy volunteer study



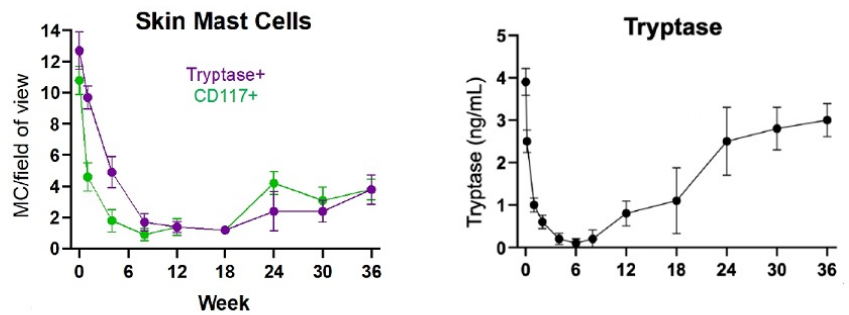
*Jasper internal data (Phase 1a, healthy volunteer study); Skin biopsies were used to count mast cells.

Briquilimab is an investigational drug and is not approved for any indication

Phase 1b/2a dose frequencies selected to align with mast cell recovery in the skin, which typically takes 3 months or longer

- Single administration of anti-c-Kit leads to deep depletion of skin mast cells
- Following depletion, mast cell recovery in the skin takes at least three months¹
- Serum tryptase recovery precedes return of urticarial symptoms and skin mast cells
 - Likely due to earlier recovery of lung and gut mast cells

Single Dose of Barzolvolimab in CIndU (3 mg/kg IV)



Minimal recovery of skin mast cells by week 36 following single administration of barzolvolimab IV in CIndU patients¹

Briquilimab Phase 1b/2a Chronic Spontaneous Urticaria Study

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

Screening/Eligibility

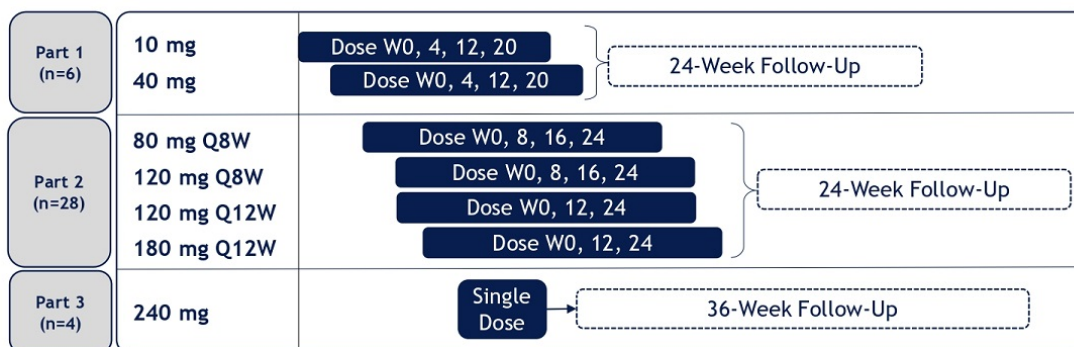
- CSU diagnosis \geq 6 mos.
- UAS7 \geq 16
- 18+ years
- H1-antihistamine-failed
- Inadequate response to omalizumab

Study Operations

- US Lead: Tom Casale, MD
- EU Lead: Marcus Maurer, MD
- ~30 sites in the US & EU
- N = ~38

Key Assessments

- ✓ Disease Scores: UAS7, UCT
- ✓ Mast Cell Depletion & Recovery: Serum Tryptase, Skin Biopsies, Skin Codeine Skin Tests
- ✓ Safety: TEAEs, SAEs



UAS7 measured at 12 weeks (Primary Endpoint)

Briquilimab is an investigational drug and is not approved for any indication

Briquilimab Phase 1b/2a in patients with Chronic Inducible Urticaria (CIndU)

Study Goal: identify therapeutic doses of subcutaneous briquilimab to inform future registrational trials

Key Objectives:

- Demonstration of efficacy and safety in a second dermatological indication
- Study design intended to identify minimally effective dose
- Provocation study enables a clear demonstration of potential drug effect
- Assess the effects of single dose briquilimab on mast cell depletion and disease symptoms/disease modification

Status: CTA submitted (EU), FPI targeted Q1 2024

Briquilimab Phase 1b/2a Chronic Inducible Urticaria Study

Open-Label, Cold Urticaria & Symptomatic Dermographism, Single Ascending Dose Study

Screening/Eligibility

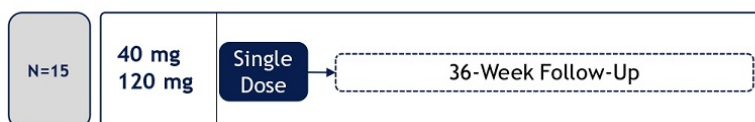
- Diagnosis of Cold Urticaria (ColdU) or Symptomatic Dermographism (SD) for ≥ 3 mos.
- H1-antihistamine-failed
- 18+ years

Study Operations

- EU Lead: Marcus Maurer, MD
- ~5 sites in the EU
- N = ~15

Key Assessments

- **Provocation Test:** TempTest (ColdU), FricTest (SD)
- **Disease Scores:** UCT
- **Mast Cell Depletion & Recovery:** Serum Tryptase, Skin Biopsies, Codeine Skin Tests
- **Safety:** TEAEs, SAEs



Provocation test measured at 12 weeks (Primary Endpoint)

Provocation Tests Used for Clinical Evaluation

Symptomatic Dermographism
FricTest



Cold Urticaria
TempTest



Mast cell depletion may provide deep and durable disease control with a convenient dosing schedule

Target ¹	Mechanisms	Mast Cell Depletion	Dosing Frequency	CSU Efficacy ²	CIndU Efficacy ²
c-Kit	Mast cell depletion	✓	8 to 12+ weeks (SQ)	+++	+++
IgE*	Signal inhibition	✗	4 weeks (SQ)	+	✗
IL-4/IL-13	Cytokine inhibition	✗	2 weeks (SQ)	+	✗
BTK	Signal inhibition	✗	Twice daily (Oral)	++	?
Siglec-8	Signal inhibition	✗	2 weeks (SQ)	+	+
MRGPRX2	Signal inhibition	✗	Unknown (Oral)	?	?

*Xolair (omalizumab) is FDA Approved



¹ Kolkhir P et al. Nature Reviews Disease Primers (2022)

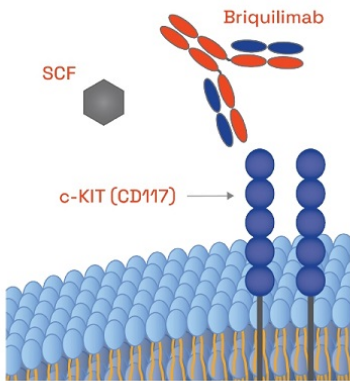
² Characterized by complete response and overall effects on disease control, as demonstrated in published clinical trials. Maurer et al. GA²LEN Global Urticaria Forum - Berlin, December 6, 2022 (Barzolvolimab); Xolair prescribing information; Maurer M et al. JACI 2022 (Dupilumab); Maurer M et al. JACI 2022 (Remibrutinib); Altrichter S et al. JACI 2022 (Lilrentelimab)

Briquimab is an investigative drug and is not approved for any indication

Briquilimab is designed for differentiated mast cell depletion

Briquilimab

Blocks SCF binding to c-KIT (CD117) to potentially inhibit receptor signaling



JASPER
THERAPEUTICS



Potency

- **Binding affinity:** $K_d < 5\text{pM}$
- **Target epitope:** Direct blockade of SCF binding pocket on c-Kit triggers mast cell apoptosis through the Bim pathway
- **Durable depletion:** Mast cell depletion drives deep clinical response with dosing every two or three months



Pharmacokinetics

- **Antibody design:** Aglycosylated, no FcRn engineering to extend recycling
- **Safety profile:** Favorable elimination kinetics allow for restoration of c-Kit signaling on other cell types once mast cells depleted



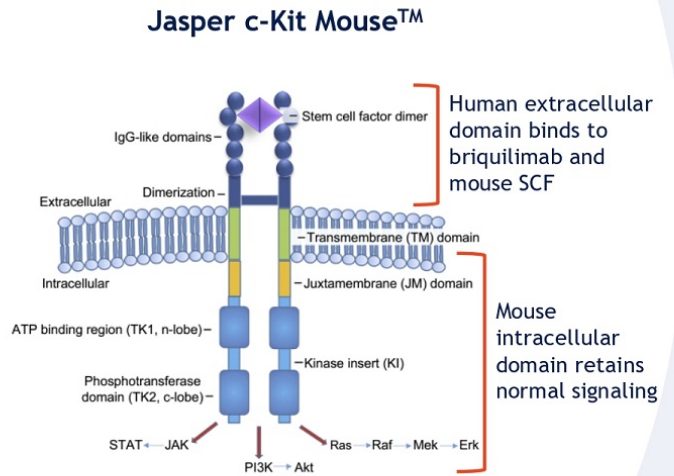
Path to Market

- **Clinical experience:** Encouraging efficacy and safety profile in >145 participants across six clinical trials to-date; initial CSU trial designed to determine the optimal biologic dose and prepare for a registrational trial
- **Potential 1st BLA:** FDA has granted briquilimab Fast Track, Orphan and Rare Pediatric Disease designations in SCID

Briquilimab is an investigational drug and is not approved for any indication

Engineering c-Kit enables direct in vivo testing of briquilimab in mast cell mediated disease models

- c-Kit antibodies designed against human receptor do not bind to wild type mouse c-Kit, thereby limiting disease model testing
- Jasper transgenic mouse allows for direct testing of briquilimab in vivo
 - Jasper mouse engineered with human c-Kit ectodomain and mouse c-Kit intracellular domain
 - Briquilimab binds to Jasper mouse c-Kit, blocks signaling leading to mast cell apoptosis
- Multiple diseases models that can be tested with briquilimab and Jasper c-Kit Mouse
 - Allergy
 - Anaphylaxis
 - Asthma
 - Atopic Dermatitis
 - IBD
 - Transplant



Briquilimab's ability to deplete mast cells may drive significant therapeutic benefits across a broad range of diseases

Mast Cell Driven Diseases

These diseases are specifically caused by mast cell dysfunction

- Chronic Spontaneous Urticaria
- Chronic Inducible Urticaria

Mast Cell Associated Diseases

Fundamental role of mast cells in atopic and allergic diseases

- Asthma, Chronic Obstructive Pulmonary Disease (COPD)
- Atopic Dermatitis, Prurigo Nodularis
- Allergic Rhinitis, Conjunctivitis
- Food Allergies, Eosinophilic Esophagitis (EoE)

Other Chronic Inflammatory & Autoimmune Diseases

High numbers of mast cells and mast-cell mediators are seen in tissues and blood (correlate with severity of inflammation)

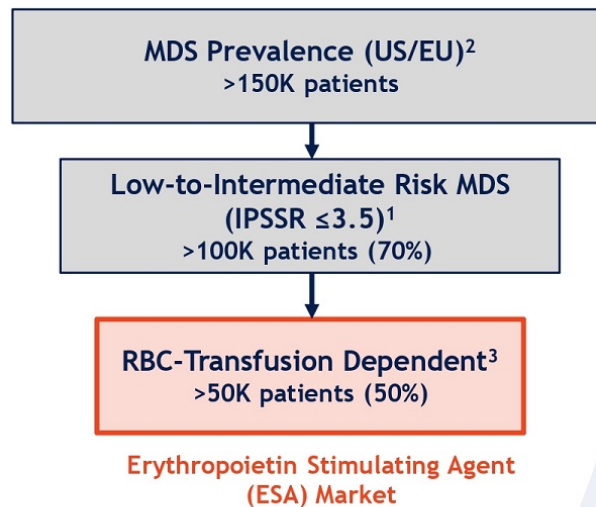
- Multiple Sclerosis
- Rheumatoid Arthritis
- Bullous Pemphigoid



Briquilimab in Low-to-Intermediate Risk MDS & Bone Marrow Transplant

Briquilimab's ability to directly deplete cancerous stem cells may be leveraged as a disease-modifying therapeutic in low-to-intermediate risk MDS patients

- 70% of myelodysplastic syndrome (MDS) patients have low to intermediate risk (LR-MDS) disease and are typically treated with ESA, other growth factors and/or transfusions¹
- Current treatments only treat symptoms and do not delay disease progression to AML or High Risk MDS
- By directly targeting c-Kit-reliant MDS stem cells, briquilimab may be the first disease modifying therapeutic for LR-MDS patients
- Jasper's ongoing study is designed to examine the impact of briquilimab to shift towards healthier bone marrow and restoration of normal hemopoiesis



Briquilimab Phase 1 trial in patients with LR-MDS



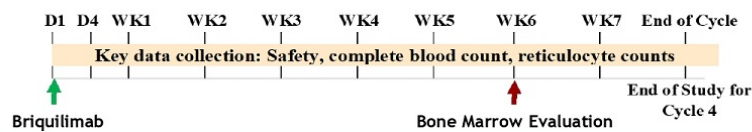
Screening/Eligibility

- IPSS-R very low, low or intermediate risk MDS patients
- RBC transfusion dependence, thrombocytopenia or neutropenia

Single Arm, MAD, Open Label Design (Enrolling)

- **Dosing:** Up to 4 cohorts - 0.3, 0.6, 0.9 and 1.2 mg/kg; Every 8 weeks
- **Size:** 3-6 per cohort

CYCLES 1 to 4







Screening/Eligibility


- Primary: Safety, tolerability
- Secondary: PK, Efficacy by HI-E/HI-P/HI-N, duration of response, reduction in RBC transfusions, ORR, progression free survival
- Exploratory: Depletion of leukemic MDS and normal stem & progenitor cells, molecular characteristics of LSCs/HSCs/HPCs, cytokine profile, immunogenicity

Briquilimab is also being tested as a novel conditioning agent for bone marrow transplant

- Briquilimab c-Kit inhibition temporarily creates space in specialized bone marrow niches
 - May drive non-quiescent HSCs to differentiate
 - Combination with radiation required for full depletion
- Briquilimab based bone marrow transplant conditioning regimens has been tested in SCID, Sickle Cell Disease, Fanconi Anemia, CGD, AML and MDS
 - Large unmet need for reduced toxicity bone marrow conditioning regimens
 - No briquilimab-related SAEs. Patients range in age from 3 months to 79 years
 - NIH sponsorship of studies in Sickle Cell, Beta Thalassemia, CGD, GATA-2 MDS; Stanford sponsorship in Fanconi
- Potential approval in SCID provides strategic opportunity for early product launch and Priority Review Voucher

Expanded portfolio presents exciting new opportunities in mast cell diseases

Indication	Sponsor	Research	Preclinical	Clinical	Program Milestones
Briquilimab					
Mast Cell Diseases (Subcutaneous)					
Chronic Spontaneous Urticaria					<ul style="list-style-type: none"> IND cleared; EU CTA submitted FPI expected by YE 2023 Initial clinical data expected in mid-2024
Chronic Inducible Urticaria					<ul style="list-style-type: none"> EU CTA submitted FPI expected in Q1 2024 Initial clinical data expected in mid-2024
Stem Cell Diseases (Intravenous)					
Low-to-Intermediate Risk MDS					<ul style="list-style-type: none"> Enrolling Initial clinical data expected late 2023/early 2024
SCID					<ul style="list-style-type: none"> Enrolling Potential BLA filing
Fanconi Anemia					<ul style="list-style-type: none"> First 4 patients achieved full chimerism & count recovery Expansion to Phase 2a (enrolling)
Sickle Cell Disease					<ul style="list-style-type: none"> First 3 patients with full chimerism & Hb increase (enrolling)
Chronic Granulomatous Disease					<ul style="list-style-type: none"> Enrolling
GATA2 MDS					<ul style="list-style-type: none"> Study start up

 Investigator Sponsored Studies

Jasper maintains full worldwide rights to develop and commercialize briquilimab in all indications



Briquilimab is an investigational drug and is not approved for any indication

Key milestones & financials

		2023		2024	
Briquilimab (c-Kit)	CSU	IND clearance; Submit CTA		Initial clinical data	
		Phase 1b/2a first patient dosed			
	CIIndU	Submit CTA	Phase 1b/2a first patient dosed	Initial clinical data	
	LR-MDS	Initial clinical data			

- \$115.8M cash and cash equivalents as of June 30, 2023
- \$16.1M net loss for Q2 2023
- 110.8M outstanding shares as of June 30, 2023
- 43 employees

Jasper is developing briquilimab across multiple disease areas affecting millions of patients with key data read outs expected in 2024

- c-Kit mediated depletion of mast cells is a novel therapeutic approach that has the potential to benefit millions of patients in the US and EU
- Briquilimab's potency and PK properties allows for mast cell depletion while minimizing unwanted adverse effects on other cell types
- Briquilimab is in development for multiple diseases with significant mast or stem cell involvement
 - Chronic Spontaneous Urticaria
 - Chronic Inducible Urticaria
 - Low-to-Intermediate Risk MDS
 - Bone Marrow Transplant Conditioning
- Multiple clinical data read outs expected in 2024 across various indications in development

October 2023

Jasper Therapeutics

NASDAQ: JSPR

