**Abstract #1956**
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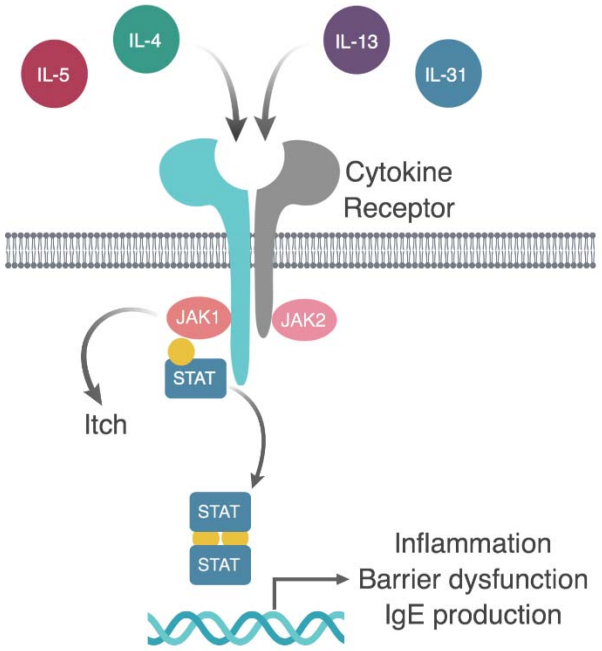
# A Phase 2, Randomized, Dose-Ranging, Vehicle- and Active-Controlled Study to Evaluate the Safety and Efficacy of Ruxolitinib Cream in Adult Patients With Atopic Dermatitis

Brian S. Kim, MD, MTR,[1] Adnan Nasir, MD, PhD,[2] Kim Papp, MD, PhD[3]
Lawrence C. Parish, MD,[4] Michael E. Kuligowski, MD, PhD, MBA,[5]
May Venturanza, MD,[5] Kang Sun, PhD,[5] Joseph F. Fowler, MD[6]

[1]Washington University, St. Louis, MO, USA; [2]Wake Research Associates LLC, Raleigh, NC, USA; [3]K. Papp Clinical Research and Probity Medical Research, Waterloo, ON, Canada; [4]Paddington Testing Co., Inc, Philadelphia, PA, USA; [5]Incyte Corporation, Wilmington, DE, USA; [6]DS Research, Louisville, KY, USA

# JAK-Targeted Therapy for Atopic Dermatitis

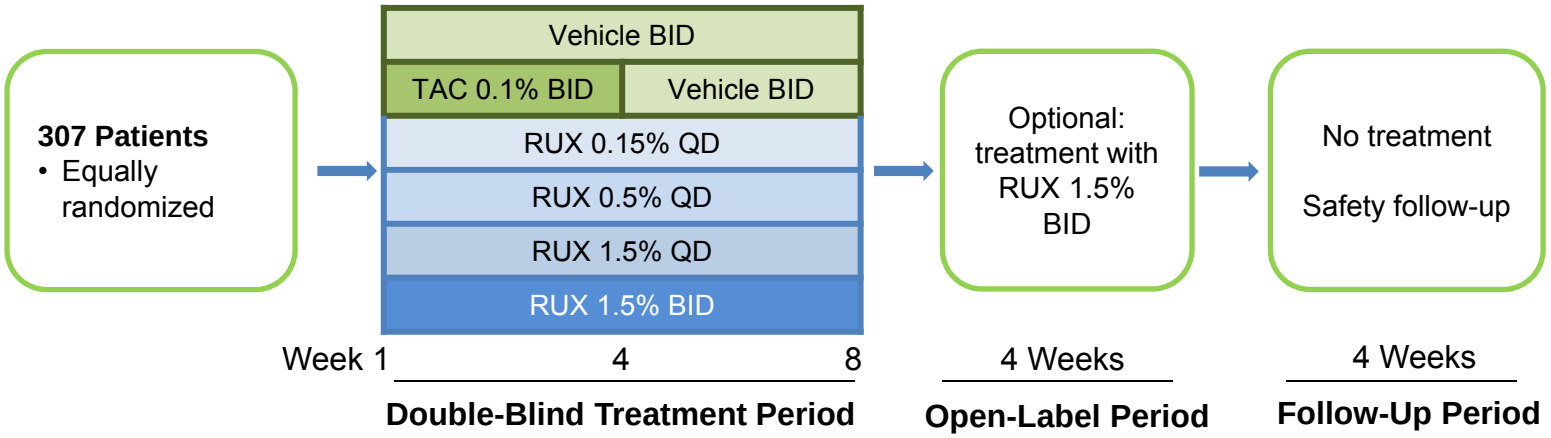
- JAKs modulate inflammatory cytokines involved in the pathogenesis of AD[1-3]
  - JAKs may also directly modulate itch[4]
- Potent topical therapies are needed for AD
- Topical corticosteroids have well-known side effects[5]
- Ruxolitinib (RUX) is a potent, selective inhibitor of JAK1 and JAK2[6]
- RUX cream was investigated in a phase 2 study for the treatment of patients with AD




AD, atopic dermatitis; IgE, immunoglobulin E; IL, interleukin; JAK, Janus kinase; RUX, ruxolitinib; STAT, signal transducer and activator of transcription.

**1.** Damsky W and King BA. *J Am Acad Dermatol*. 2017;76(4):736-744; **2.** Bao L, et al. *JAKSTAT*. 2013;2(3):e24137; **3.** Furue M, et al. *Allergy*. 2018;73(1):29-36; **4.** Oetjen LK, et al. *Cell*. 2017;171(1):217-228; **5.** Nygaard U, et al. *Dermatology*. 2017;233(5):333-343; **6.** Quintas-Cardama A, et al. *Blood*. 2010;115(15):3109-3117.

# Study Design




- **Primary endpoint:** mean percentage change from baseline in EASI score at Week 4 in the RUX 1.5% BID arm versus vehicle
- **Secondary and exploratory endpoints:** responder rates (IGA and EASI), itch NRS score, and safety

BID, twice daily; EASI, Eczema Area and Severity Index; IGA, Investigator's Global Assessment; NRS, numerical rating scale; QD, once daily; RUX, ruxolitinib; TAC, triamcinolone active control.

# Patient Eligibility

## Key inclusion criteria

- Patients aged 18–70 years with active AD
- History of AD >2 years
- IGA of 2 or 3
- BSA involvement of 3%–20%

## Key exclusion criteria

- Clinically meaningful, active infections
- Use of other topical AD treatments within 2 weeks of baseline
- Systemic drug use within 4 weeks of baseline
- Other conditions that could complicate study assessments

AD, atopic dermatitis; BSA, body surface area; IGA, Investigator's Global Assessment.

# Patient Demographics and Baseline Clinical Characteristics

| Demographic | Total (N=307) |
|---|---|
| **Age, median (range), years** | 35.0 (18.0–70.0) |
| **Female, n (%)** | 168 (54.7) |
| **Race, n (%)** | |
| White | 172 (56.0) |
| Black | 85 (27.7) |
| Asian | 41 (13.4) |
| Other | 9 (2.9) |

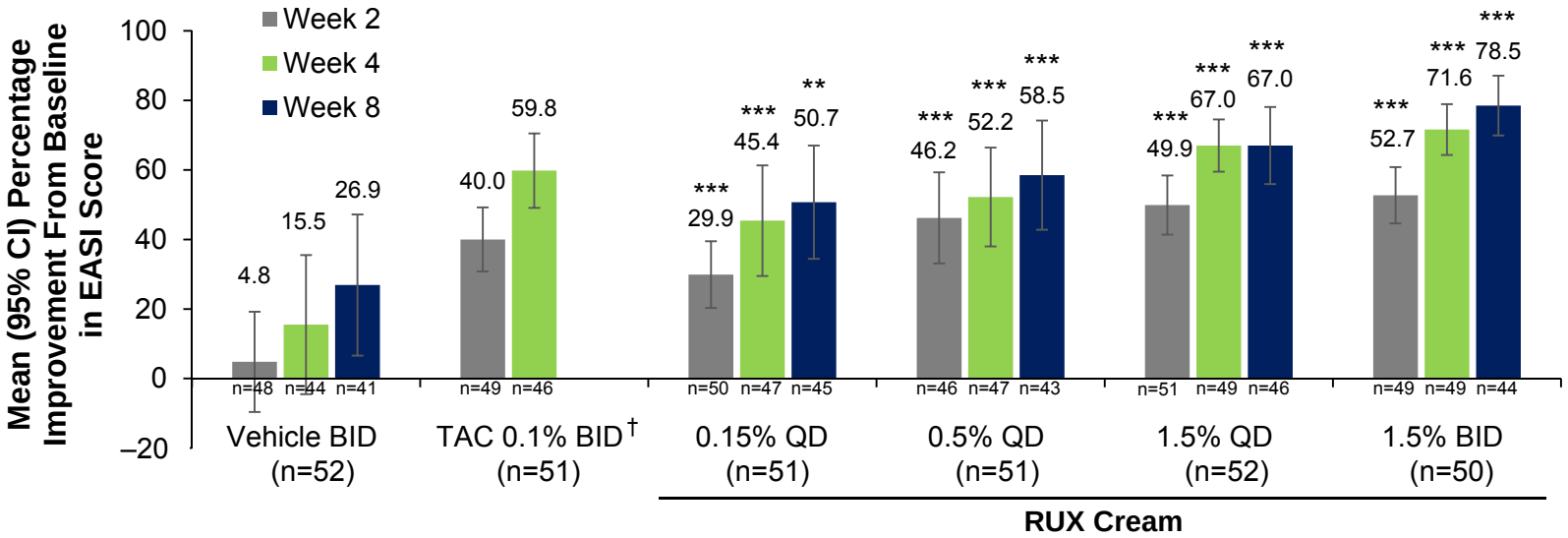
| Clinical Characteristic | Total (N=307) |
|---|---|
| **BSA, mean ± SD, %** | 9.7 ± 5.4 |
| **Baseline EASI, mean ± SD** | 8.4 ± 4.7 |
| ≤7, n (%) | 147 (47.9) |
| >7, n (%) | 159 (51.8) |
| **Baseline IGA, n (%)** | |
| 2 | 95 (31) |
| 3 | 210 (69) |
| **Itch NRS score,* mean ± SD** | 6 ± 2 |
| **Duration of disease, median (range), years** | 20.8 (0.1–66.1) |
| **Number of flares in last 12 months, mean ± SD** | 7.3 ± 23.3 |

Patient demographics and baseline clinical characteristics were evenly distributed across all treatment groups

BSA, body surface area; EASI, Eczema Area and Severity Index; IGA, Investigator's Global Assessment; NRS, numerical rating scale.
* Range of NRS, 0–10 (0, no itch; 10, worst imaginable itch).

# Improvement from Baseline in EASI Score

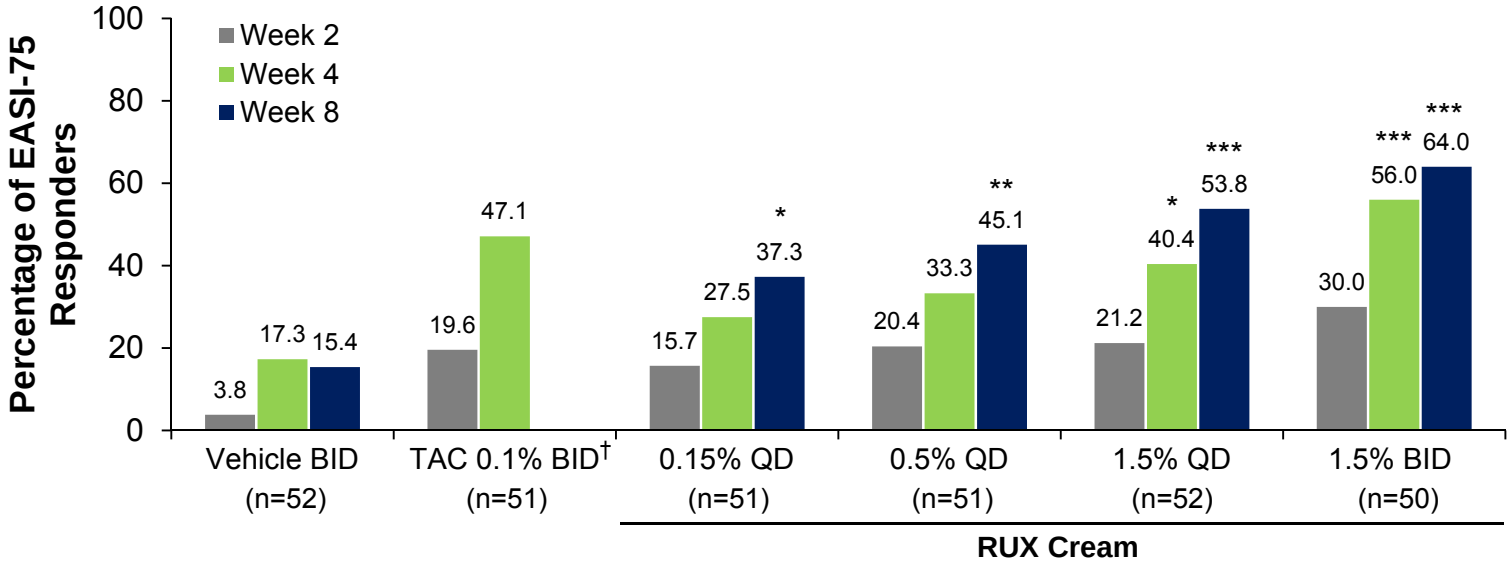
- RUX cream demonstrated significant improvement of EASI scores in a dose- and time-dependent manner across all concentrations compared to vehicle control
- RUX 1.5% BID resulted in greater improvement in EASI scores versus triamcinolone




BID, twice daily; EASI, Eczema Area and Severity Index; QD, once daily; RUX, ruxolitinib; TAC, triamcinolone active control.
*** *P*<0.001 vs vehicle; ** *P*<0.01 vs vehicle; † TAC arm received TAC 0.1% cream through Week 4 and vehicle thereafter.

# Proportion of Patients Achieving EASI-75

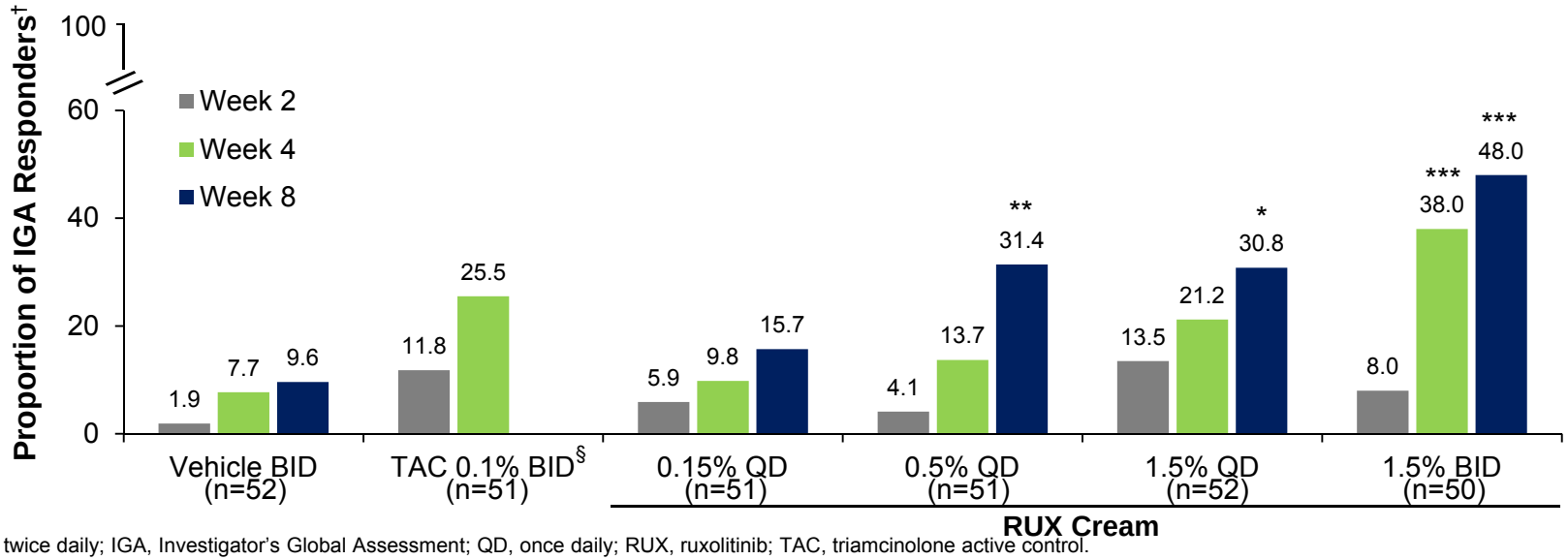
- Increasing numbers of patients achieved an EASI-75 (≥75% improvement from baseline) with RUX cream in a dose- and time-dependent manner not observed in vehicle controls
- There were more EASI-75 responders after treatment with RUX 1.5% BID versus triamcinolone




BID, twice daily; EASI, Eczema Area and Severity Index; QD, once daily; RUX, ruxolitinib; TAC, triamcinolone active control.
*** *P*<0.001 vs vehicle; ** *P*<0.01 vs vehicle; **P*<0.05 vs vehicle; † TAC arm received TAC 0.1% cream through Week 4 and vehicle thereafter.

# Proportion of Patients with IGA Response

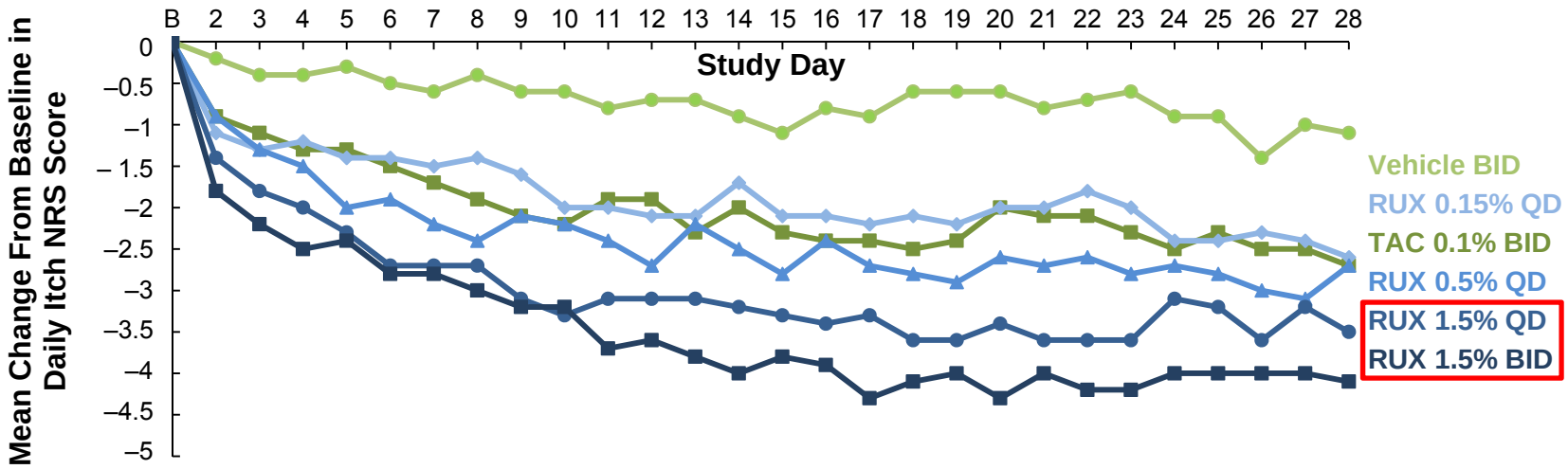
- RUX cream demonstrated significant improvement of IGA response (0–1 with an improvement of ≥2 points from baseline) in dose- and time-dependent manner
- RUX 1.5% BID resulted in greater improvement in IGA response versus triamcinolone




BID, twice daily; IGA, Investigator's Global Assessment; QD, once daily; RUX, ruxolitinib; TAC, triamcinolone active control.
*** *P*<0.001 vs vehicle; ** *P*<0.01 vs vehicle; * *P*<0.05 vs vehicle.
† Defined as a patient achieving an IGA score of 0–1 with an improvement of ≥2 points from baseline; § TAC arm received TAC 0.1% cream through Week 4 and vehicle thereafter.

# Rapid and Sustained Reduction in Itch

- Reductions in itch NRS scores were observed within **2 days** (RUX 1.5% BID vs vehicle, –1.8 vs –0.2; *P*<0.0001)




B, baseline; BID, twice daily; NRS, numerical rating scale; QD, once daily; RUX, ruxolitinib; TAC, triamcinolone active control.

# Safety

- RUX was well tolerated and not associated with clinically significant application site reactions
- All treatment-related adverse events were mild or moderate in severity

| | | | RUX Cream | | | |
|---|---|---|---|---|---|---|
| | **Vehicle BID (n=52)** | **TAC 0.1% BID (n=51)** | **0.15% QD (n=51)** | **0.5% QD (n=51)** | **1.5% QD (n=51)** | **1.5% BID (n=50)** |
| **Days in study, median (range)** | 55.5 (4.0–89.0) | 56.0 (16.0–74.0) | 56.0 (9.0–83.0) | 56.0 (1.0–65.0) | 56.0 (1.0–69.0) | 56.0 (11.0–89.0) |
| **Patients with TEAE, n (%)** | 17 (32.7) | 17 (33.3) | 19 (37.3) | 11 (21.6) | 18 (35.3) | 12 (24.0) |
| Treatment-related TEAE | 5 (9.6) | 1 (2.0) | 2 (3.9) | 1 (2.0) | 5 (9.8) | 3 (6.0) |
| Discontinuation because of a TEAE* | 1 (1.9) | 1 (2.0) | 1 (2.0) | 0 | 0 | 0 |
| Serious TEAE† | 0 | 1 (2.0) | 0 | 0 | 0 | 0 |

AE, adverse event; BID, twice daily; QD, once daily; RUX, ruxolitinib; TAC, triamcinolone active control; TEAE, treatment-emergent adverse event.
* No AEs that resulted in discontinuation were related to treatment.
† Unrelated to study drug.

# Conclusions

- RUX cream provided dose-dependent efficacy in all arms
  - RUX 1.5% BID demonstrated noninferiority, with a trend toward being better than triamcinolone
- Prompt reductions in pruritus were observed in all RUX arms
  - RUX 1.5% BID and QD demonstrated more pronounced reductions in itch than with triamcinolone cream
- RUX was not associated with any significant safety or tolerability findings
- These findings show that RUX cream may represent a novel and effective topical treatment for patients with AD

AD, atopic dermatitis; BID, twice daily; QD, once daily.