Head-to-head study of bimekizumab, an IL-17A/IL-17F inhibitor, and risankizumab, an IL-23 inhibitor, in patients with active psoriatic arthritis: Study design and rationale of BE BOLD, a phase 3b, randomised, parallel-group study

P2641

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Objective

To describe BE BOLD, the first head-to-head study designed to compare the efficacy and safety of bimekizumab (BKZ) and risankizumab (RZB) in patients with active psoriatic arthritis (PsA).

Introduction

- PsA is a chronic, inflammatory disease that affects multiple domains including joints, skin, and nails.[1,2]
- To date, no head-to-head studies of biologic disease-modifying antirheumatic drugs (bDMARDs) using joint efficacy endpoints have shown superiority in PsA.[3] These data would be beneficial for clinicians to guide treatment decisions in patients with PsA.
- BKZ, a monoclonal antibody that selectively inhibits interleukin (IL)-17F in addition to IL-17A, has demonstrated efficacy and tolerability in PsA.[4] RZB, an IL-23 inhibitor, has also demonstrated efficacy and tolerability in PsA.[5,6]
  - BKZ has previously demonstrated greater efficacy than IL-23 and IL-17A inhibitors in the skin domain.[7,8]
- IL-23-responsive cells are a significant source of IL-17A and IL-17F. However, IL-17A and IL-17F, notably IL-17F, can also be produced independently of IL-23, particularly by innate immune cells (**Figure 1**).[9–15]
- We hypothesise that BKZ will be superior to RZB in joint efficacy at Week 16, by blocking IL-17A and IL-17F derived from both IL-23-dependent and IL-23-independent sources.

Trial design

- BE BOLD (NCT06624228) is a multicentre, phase 3b, randomised, double-blinded, active-controlled, parallel-group study.
- Approximately 550 patients will be randomised 1:1 to subcutaneous BKZ or RZB, and dosed according to approved BKZ and RZB labels for patients with PsA based on psoriasis severity at baseline (**Figure 2**).[16–19]
  - No/minimal psoriasis is defined as body surface area (BSA) <3%. Mild psoriasis is defined as BSA ≥3% to <10%, or BSA ≥10% and either Investigator's Global Assessment (IGA) <3 or Psoriasis Area and Severity Index (PASI) <12. Moderate/severe psoriasis is defined as BSA ≥10%, IGA score ≥3, and PASI ≥12.
  - BKZ-randomised patients with no/minimal or mild psoriasis will receive BKZ 160 mg every 4 weeks (Q4W) to Week 24, with final dose at Week 20. BKZ-randomised patients with moderate/severe psoriasis will receive BKZ 320 mg Q4W to Week 16, then 320 mg every 8 weeks (Q8W).
  - All RZB-randomised patients will receive RZB 150 mg at baseline, Week 4, and Week 16, regardless of baseline psoriasis severity.
- Patients will be ≥18 years of age with active, adult-onset PsA; inclusion and exclusion criteria are described in **Figure 3**.
- Primary and secondary endpoints are presented in **Figure 4**.

Conclusions

BE BOLD is the first head-to-head study to test for the superiority of bimekizumab over risankizumab in joint disease, using the clinically meaningful primary endpoint of ACR50 at Week 16.

BE BOLD is also the first trial to evaluate the efficacy and safety of an IL-17A and IL-17F inhibitor versus an IL-23 inhibitor in patients with active PsA.

BE BOLD was designed to utilise approved label dosing for bimekizumab and risankizumab as per the EU SmPC and USPI dosing for PsA.[16–19]

Summary

Objective

To describe BE BOLD, the first head-to-head study comparing the efficacy and safety of **BKZ** and **RZB** in patients with active PsA using approved dosing of BKZ and RZB, based on psoriasis severity at baseline

Population

~550 patients with active PsA treated with BKZ or RZB

Primary endpoint

ACR50 at Week 16

Additional endpoints

Clinical efficacy outcomes across the domains of PsA

Patient-reported outcomes

Safety outcomes

Figure 1 Bimekizumab and risankizumab mechanism of action

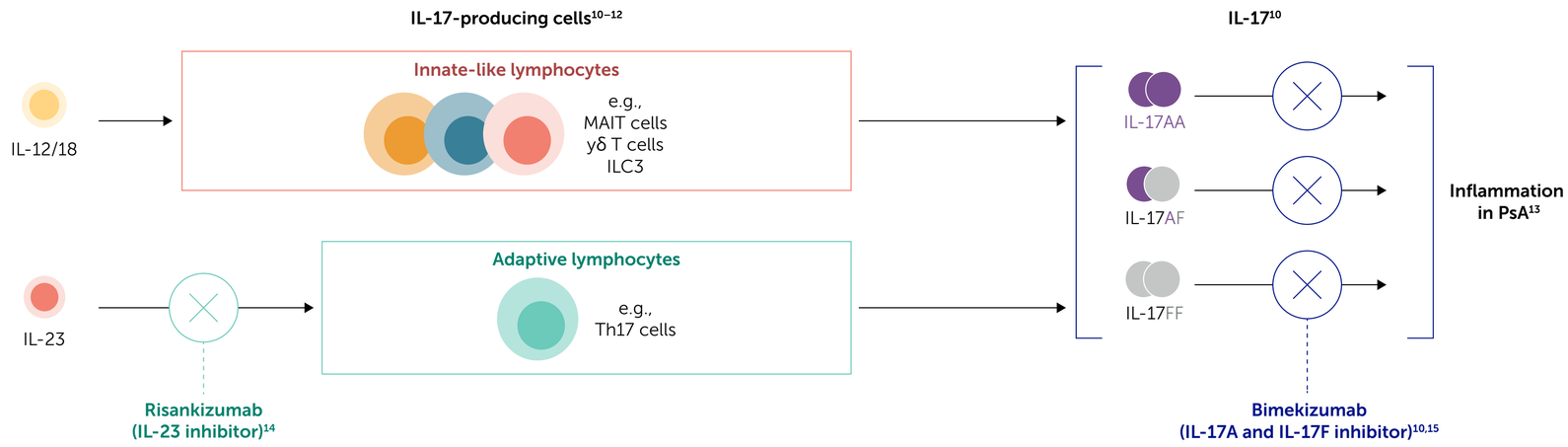
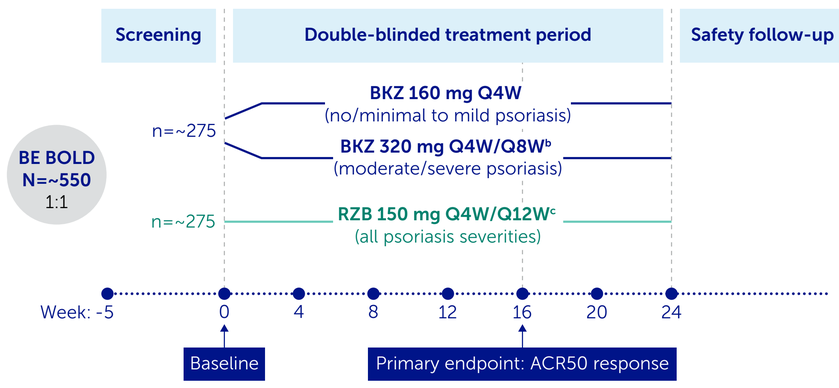


Figure 2 BE BOLD study design[a]



Treatment arm	BL	Week 4	8	12	16	20	24
BKZ 160 mg Q4W (No/minimal to mild psoriasis)	●	●	●	●	●	●	End of double-blinded period
BKZ 320 mg Q4W/Q8W[b] (Moderate/severe psoriasis)	●	●	●	●	●	○	
RZB 150 mg Q4W/Q12W[c] (All psoriasis severities)	●	●	○	○	●	○	

● BKZ or RZB dose ○ Placebo dose (to maintain the blind)

[a] This represents a planned study protocol which may be amended before the study commences; **[b]** 320 mg Q4W to Week 16, then 320 mg Q8W; **[c]** 150 mg at baseline, Week 4, then Q12W.

Figure 3 Inclusion and exclusion criteria

Inclusion	Exclusion
1 ≥18 years of age	1 Diagnosis of inflammatory conditions other than psoriasis or PsA
2 Tested negative for rheumatoid factor and anti-cyclic citrullinated peptide antibodies	2 A diagnosis of Crohn's disease or ulcerative colitis is permitted, provided that the patient has no active symptomatic disease at screening or baseline
3 Must currently be, or have previously been, on conventional systemic therapy[a]	3 A current or prior exposure to biologic treatments (including BKZ or RZB), with the exception of one prior TNF inhibitor[b]
4 **Active adult-onset PsA, determined by** ≥1 active psoriatic lesion and/or history of chronic plaque-type psoriasis Fulfilling CASPAR criteria[20] Tender joint count ≥3/68 and swollen joint count ≥3/66 at baseline PsA disease duration ≥6 months prior to screening	

[a] Eligible study participants will be allowed to remain on their background medication throughout the study; **[b]** Study participants who have been on a TNF inhibitor previously must have either experienced an inadequate response to previous treatment given at an approved dose for at least 3 months, or been intolerant to administration.

Figure 4 Trial endpoints

Primary endpoint: ACR50[a] response at Week 16

Secondary and exploratory endpoints[b]:

- **Minimal Disease Activity (MDA)[c]** response at Week 16
- Composite endpoint of **ACR50+PASI100** response at Week 16[d]
- **ACR50** response at Week 4
- Clinical efficacy outcomes across the domains of PsA
- Patient-reported outcomes
- Health-related quality of life measures
- Work productivity measures

Safety outcomes:

- Incidence of TEAEs, including serious AEs and TEAEs leading to withdrawal

[a] The ACR50 response rate is based on a 50% or greater improvement of arthritis relative to baseline: TJC68 and SJC66: 2-point scale (0=absent; 1=present); PGA-PsA: 100 VAS (0=very good, no symptoms; 100=very poor, severe symptoms); PhGA-PsA: 100 VAS (0=very good, asymptomatic, no limitation of normal activities; 100=very poor, very severe symptoms which were intolerable, inability to carry out all normal activities); PtAAP: 100 VAS (0=no pain; 100=most severe pain); HAQ-DI assessed degree of difficulty experienced in 8 domains of daily living activities (20 questions), total score (0–3) computed from item scores, with lower scores meaning less disability; hs-CRP in mg/L;[21] **[b]** Additional exploratory endpoints other than those listed here may also be included in the study; **[c]** Defined as achievement of ≥5 of the following 7 criteria: TJC68 ≤1, SJC66 ≤1, PASI ≤1 or BSA ≤3, pain VAS ≤15, PGA-PsA VAS ≤20, HAQ-DI ≤0.5, tender entheseal points (LEI) ≤1; **[d]** In patients with psoriasis involving ≥3% BSA at baseline.

ACR50: ≥50% improvement from baseline in American College of Rheumatology response criteria; **AE:** adverse event; **bDMARD:** biologic disease-modifying antirheumatic drug; **BKZ:** bimekizumab; **BL:** baseline; **BSA:** body surface area; **CASPAR:** Classification Criteria for Psoriatic Arthritis; **HAQ-DI:** Health Assessment Questionnaire-Disability Index; **hs-CRP:** high sensitivity C-reactive protein; **IGA:** Investigator's Global Assessment; **IL:** interleukin; **ILC3:** group 3 innate lymphoid cell; **LEI:** Leeds Enthesitis Index; **MAIT:** mucosal-associated invariant T; **MDA:** Minimal Disease Activity; **PASI100:** 100% improvement from baseline in Psoriasis Area and Severity Index; **PGA-PsA:** Patient's Global Assessment of Psoriatic Arthritis; **PhGA-PsA:** Physician's Global Assessment of Psoriatic Arthritis; **PsA:** psoriatic arthritis; **PtAAP:** Patient's Assessment of Arthritis Pain; **Q4W:** every 4 weeks; **Q8W:** every 8 weeks; **Q12W:** every 12 weeks; **RZB:** risankizumab; **SJC66:** swollen joint count in 66 joints; **SmPC:** summary of product characteristics; **TEAE:** treatment-emergent adverse event; **Th:** T helper; **TJC68:** tender joint count in 68 joints; **TNF:** tumour necrosis factor; **USPI:** United States Prescribing Information; **VAS:** visual analog scale.

References: [1]Coates LC et al. Clin Med (Lond) 2017;17:65–70; [2]Veale DJ & Fearon U. Lancet 2017;391:2273–84; [3]Gossec L et al. Ann Rheum Dis 2024;83:706–19; [4]Mease PJ et al. Rheumatol Ther 2024;11:1363–82 (NCT03895203, NCT03896581, NCT04009499); [5]Kristensen LE et al. Rheumatol Ther 2024;11:617–32 (NCT03675308); [6]Östör A et al. Rheumatol Ther 2024;11:633–48 (NCT03671148); [7]Reich K et al. Lancet 2021;397:487–98; [8]Reich K et al. N Engl J Med 2021;385:142–52; [9]Navarro-Compán V et al. Front Immunol 2023;14:1191782; [10]Tsukazaki H & Kaito T. Int J Mol Sci 2020;21:6401; [11]Cole S et al. Front Immunol 2020;11:585134; [12]Łukasik Z et al. Rheumatology (Oxford) 2021;60 (Suppl 4):iv16–27; [13]Wang EA et al. Eur J Rheumatol 2017;4:272–7; [14]Pang Y et al. Clin Transl Sci 2024;17:e13706; [15]Glatt S et al. Ann Rheum Dis 2018;77:523–32; [16]Bimekizumab Summary of Product Characteristics. 2025. Available at: https://www.ema.europa.eu/en/documents/product-information/bimzelx-epar-product-information_en.pdf [Accessed May 2025]; [17]Bimekizumab USPI. 2023. Available at: https://www.accessdata.fda.gov/drugsatfda_docs/label/2024/761151s005s006s007lbl.pdf [Accessed May 2025]; [18]Risankizumab Summary of Product Characteristics. 2025. Available at: https://www.ema.europa.eu/en/documents/product-information/skyrizi-epar-product-information_en.pdf [Accessed May 2025]; [19]Risankizumab USPI. 2024. Available at: https://www.accessdata.fda.gov/drugsatfda_docs/label/2024/761105s029,761262s007lbl.pdf [Accessed May 2025]; [20]Taylor W et al. Arthritis Rheum 2006;54:2665–73; [21]National Library of Medicine. A Study to Evaluate the Efficacy and Safety of Bimekizumab in Adult Study Participants With Active Psoriatic Arthritis. Available at: https://clinicaltrials.gov/study/NCT06624228 [Accessed May 2025].
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