Bimekizumab versus secukinumab efficacy across subgroups of patients with moderate to severe plaque psoriasis: Results from the multicenter, randomized, double-blinded phase 3b BE RADIANT trial

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Objective

To assess the efficacy of bimekizumab (BKZ), compared with secukinumab (SEC), across different subgroups of patients with moderate to severe plaque psoriasis.

Introduction

- BKZ is a monoclonal IgG1 antibody that selectively inhibits interleukin (IL)-17F in addition to IL-17A.[1]
- In BE RADIANT (NCT03536884), an ongoing phase 3b, randomized, double-blinded, active comparator-controlled trial, superior levels of complete skin clearance (PASI 100 [100% improvement from baseline in Psoriasis Area and Severity Index]) for patients with plaque psoriasis were observed with BKZ compared with SEC, a biologic targeting IL-17A only.[2]
- Response to treatment with biologics can vary depending on patient characteristics.[3]
- Here, we assess the efficacy of BKZ vs SEC across subgroups of patients enrolled in BE RADIANT over 48 weeks.

Methods

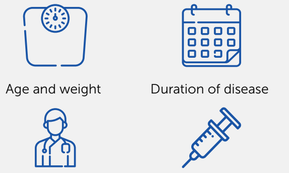
- Patients received treatment as shown in **Figure 1**.
- Proportions of patients achieving PASI 100 and PASI 90 (≥90% improvement from baseline in Psoriasis Area and Severity Index) at Week 48 are reported for relevant patient subgroups including baseline weight, prior biologic exposure, age, psoriasis disease duration prior to baseline, baseline PASI, and baseline Investigator's Global Assessment (IGA).
- Analyses are based on the intention-to-treat (ITT) population, with data for BKZ every 4 weeks (Q4W) and every 8 weeks (Q8W) maintenance dosing regimens pooled.
- Missing data were imputed using non-responder imputation (NRI).

Results

- In BE RADIANT, 373 patients were randomized to BKZ and 370 were randomized to SEC.
- Baseline characteristics were similar between the BKZ and SEC treatment arms **(Table 1)**.
- At Week 48, more BKZ- vs SEC-treated patients achieved PASI 100 **(Figure 2)**.
- This trend was reflected across patient subgroups, with PASI 100 responder rates ranging from 60.5–75.0% for BKZ compared with 33.3–50.7% for SEC-treated patients **(Figure 2)**.
- Similar trends across subgroups were seen for PASI 90 responses at Week 48 for BKZ- vs SEC-treated patients **(Figure 3)**.

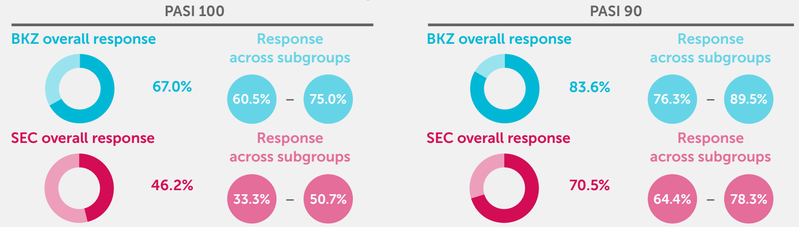
Summary

Subgroups analyzed



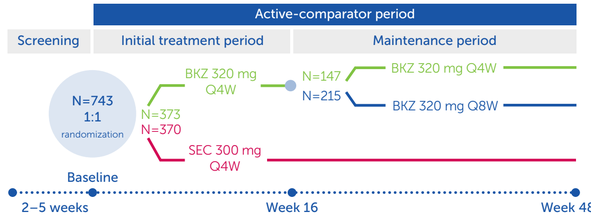
Results:

PASI response at Week 48



BKZ-treated patients achieved higher levels of near or complete skin clearance at Week 48 of treatment than SEC-treated patients, regardless of patient subgroup.

Figure 1 BE RADIANT study design



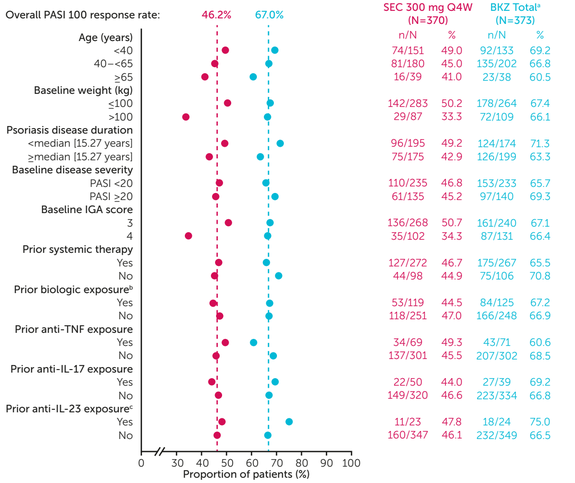
In BE RADIANT (NCT03536884), patients were randomized 1:1 to BKZ 320 mg every 4 weeks (Q4W) or SEC 300 mg weekly to Week 4 then Q4W. Patients randomized to BKZ 320 mg Q4W either continued to receive Q4W dosing at Week 16 or switched to Q8W maintenance dosing.

Table 1 BE RADIANT baseline characteristics

	SEC N=370	BKZ N=373
Age (years), mean ± SD	44.0 ± 14.7	45.9 ± 14.2
Male, n (%)	235 (63.5)	251 (67.3)
Caucasian, n (%)	348 (94.1)	347 (93.0)
Weight (kg), mean ± SD	88.8 ± 20.0	90.1 ± 21.3
Duration of disease (years), mean ± SD	17.2 ± 12.3	18.4 ± 13.1
PASI score, mean ± SD	19.7 ± 6.7	20.2 ± 7.5
BSA (%), mean ± SD	23.8 ± 14.3	24.8 ± 15.5
IGA score, n (%)		
3: moderate	268 (72.4)	240 (64.3)
4: severe	102 (27.6)	131 (35.1)
DLQI score, mean ± SD	11.3 ± 7.2	10.8 ± 6.6
Prior systemic therapy, n (%)	272 (73.5)	267 (71.6)
Prior biologic therapy,[a] n (%)	119 (32.2)	125 (33.5)
Anti-TNF	69 (18.6)	71 (19.0)
Anti-IL-17	50 (13.5)	39 (10.5)
Anti-IL-23[b]	23 (6.2)	24 (6.4)

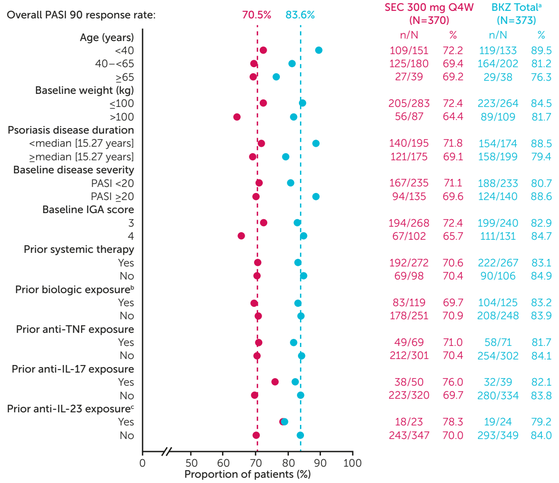
Baseline characteristics have been reported previously.[2,4] [a]Includes patients with multiple prior biologic use. [b]Anti-IL-23 category does not include anti-IL-12/23 therapies.

Figure 2 Patients achieving PASI 100 responses at Week 48 among baseline subgroups (NRI; ITT population)



Overall PASI 100 response rates at Week 48 have been reported previously.[2,4] [a]Includes all patients randomized to BKZ, regardless of whether they received BKZ 320 mg Q4W or Q8W maintenance dosing from Week 16. [b]Includes patients with multiple prior biologic use. [c]Anti-IL-23 category does not include anti-IL-12/23 therapies.

Figure 3 Patients achieving PASI 90 responses at Week 48 among baseline subgroups (NRI; ITT population)



Overall PASI 90 response rates at Week 48 have been reported previously.[2,4] Includes all patients randomized to BKZ, regardless of whether they received BKZ 320 mg Q4W or Q8W maintenance dosing from Week 16. [b]Patients with multiple biologics use are included. [c]Anti-IL-23 category does not include anti-IL-12/23 therapies.

BKZ: bimekizumab; BSA: body surface area; DLQI: Dermatology Life Quality Index; Ig: immunoglobulin; IGA: Investigator's Global Assessment; IL: interleukin; ITT: intention-to-treat; NRI: non-responder imputation; Q4W: every 4 weeks; Q8W: every 8 weeks; PASI: Psoriasis Area and Severity Index; SD: standard deviation; SEC: secukinumab; TNF: tumor necrosis factor.

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References: [1]Glatt S. Ann Rheum Dis 2017;77:523–32; [2]Reich K. N Engl J Med 2021; 385:142–52; [3]Edson-Heredia E. J Invest Dermatol 2014;134:18–23. **Author Contributions:** Substantial contributions to study conception/design, or acquisition/analysis/interpretation of data: **AB**, **LI**, **SM**, **MG**, **PS**, **PY**, **FS**, **VV**, **KW**, **PG**; Drafting of the publication, or revising it critically for important intellectual content: **AB**, **LI**, **SM**, **MG**, **PS**, **PY**, **FS**, **VV**, **KW**, **PG**; Final approval of the publication: **AB**, **LI**, **SM**, **MG**, **PS**, **PY**, **FS**, **VV**, **KW**, **PG**. **Author Disclosures: AB**: Served as a scientific adviser and/or clinical study investigator for AbbVie, Abcentra, Aligos, Almirall, Amgen, Arcutis, Arena, Aslan, Athenex, Boehringer Ingelheim, Bristol Myers Squibb, Dermavant, Eli Lilly, Evommune, Forte, Galderma, Incyte, Janssen, Landos, LEO Pharma, Novartis, Pfizer, Rapt, Regeneron, Sanofi Genzyme, Sun Pharma, UCB Pharma, and Vibliome. **LI**: Served as a consultant and/or paid speaker for and/or participated in clinical trials sponsored by AbbVie, Almirall, Amgen, AstraZeneca, Bristol Myers Squibb, Boehringer Ingelheim, Celgene, Eli Lilly, Janssen, LEO Pharma, MSD, Novartis, Pfizer, Regnamon, Samsung, UCB Pharma, and Union Therapeutics. **SM**: Consultancy and/or speakers' fees from AbbVie, Almirall, Eli Lilly, Novartis, Janssen, Amgen, Celgene and UCB Pharma; grant/research support from AbbVie and Celgene. **MG**: Investigator, speaker, consultant or advisory board member for AbbVie, Amgen, Akros, Arcutis, Bausch Health, Bristol Myers Squibb, Boehringer Ingelheim, Celgene, Dermavant, Dermira, Eli Lilly, Galderma, GSK, Janssen, Kyowa Kirin, MedImmune, Merck, Novartis, Pfizer, Regeneron, Sanofi Genzyme, Sun Pharma and UCB Pharma. **PS**: Has received grants and/or personal fees from AbbVie, Amgen, Almirall, Boehringer Ingelheim, Bristol Myers Squibb, Celgene, Eli Lilly, Janssen, LEO Pharma, Novartis, Pfizer and UCB Pharma. **PY**: Speaker, investigator and/or consultant for AbbVie, Amgen, Eli Lilly, Janssen, Novartis, Ortho Dermatologics, Sun Pharma and UCB Pharma. **FS**, **VV**, **KW**: Employees and shareholders of UCB Pharma. **PG**: Consultant for AbbVie, Abiogen, Almirall, Celgene, Eli Lilly, Janssen, LEO Pharma, Merck, MSD, Novartis, Otsuka, Pfizer, Pierre Fabre, Sanofi and UCB Pharma. **Acknowledgements:** This study was funded by UCB Pharma. We thank the patients and their caregivers in addition to the investigators and their teams who contributed to this study. The authors acknowledge Susanne Wiegratz, MSc, UCB Pharma, Monheim, Germany for publication coordination, Natalie Nunez Gomez, MD, UCB Pharma, Brussels, Belgium for critical review, Carolyn Walsh, PhD, Costello Medical, Cambridge, UK, for medical writing and editorial assistance and the Design team at Costello Medical for graphic design assistance. All costs associated with development of this poster were funded by UCB Pharma.

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Conclusions

BKZ demonstrated higher levels of near or complete skin clearance than SEC at Week 48 of treatment, regardless of baseline demographics, disease characteristics, or prior exposure to biologic therapies.

Given its consistent efficacy across all subgroups analyzed, these results support BKZ as a treatment suitable for a wide variety of patients with psoriasis, including those with a high weight or severe disease.