

SUPPLEMENTARY MATERIAL

Title: Bimekizumab Efficacy and Safety in Patients with Psoriatic Arthritis with Substantial Skin and Nail Psoriasis to 1 Year

Authors: Diamant Thaçi,¹ Akihiko Asahina,² Wolf-Henning Boehncke,^{3,4} Alice B. Gottlieb,⁵ Mark Lebwohl,⁵ Richard B. Warren,⁶ Heather Edens,⁷ Barbara Ink,⁸ Rajan Bajracharya,⁸ Jason Coarse,⁹ Joseph F. Merola¹⁰

¹Institute and Comprehensive Center for Inflammation Medicine, University of Lübeck, Lübeck, Germany; ²Department of Dermatology, The Jikei University School of Medicine, Tokyo, Japan; ³Division of Dermatology and Venereology, Department of Medicine, Geneva University Hospitals, Geneva, Switzerland; ⁴Department of Pathology and Immunology, Faculty of Medicine, University of Geneva, Geneva, Switzerland; ⁵Department of Dermatology, Icahn School of Medicine at Mount Sinai, New York, New York, USA; ⁶Dermatology Centre, Northern Care Alliance NHS Foundation Trust & Division of Musculoskeletal and Dermatological Sciences, Manchester NIHR Biomedical Research Centre, Manchester Academic Health Science Centre, University of Manchester, Manchester, UK; ⁷UCB, Smyrna, Georgia, USA; ⁸UCB, Slough, UK; ⁹UCB, Morrisville, North Carolina, USA; ¹⁰Department of Dermatology and Department of Medicine, Division of Rheumatology, UT Southwestern Medical Center, Dallas, Texas, USA

Corresponding author: Diamant Thaçi, MD

Email: Diamant.Thaci@uksh.de

Supplementary Table 1. Participant demographics and baseline characteristics in participants with baseline plaque-type psoriasis ($\geq 3\%$ BSA) or baseline nail involvement (mNAPSI >0)

	BE OPTIMAL (biologic-naïve)				BE COMPLETE (TNFi-IR)			
	PBO		BKZ 160 mg Q4W		PBO		BKZ 160 mg Q4W	
	$\geq 3\%$ BSA n=140	mNAPSI >0 n=156	$\geq 3\%$ BSA n=217	mNAPSI >0 n=244	$\geq 3\%$ BSA n=88	mNAPSI >0 n=83	$\geq 3\%$ BSA n=176	mNAPSI >0 n=159
Age, years, mean (SD)	48.0 (11.4)	49.5 (10.8)	46.7 (12.2)	47.9 (11.8)	49.8 (13.1)	50.4 (13.3)	48.9 (12.3)	50.3 (12.3)
Sex, n (%)								
Male	63 (45.0)	80 (51.3)	110 (50.7)	116 (47.5)	40 (45.5)	44 (53.0)	89 (50.6)	89 (56.0)
Female	77 (55.0)	76 (48.7)	107 (49.3)	128 (52.5)	48 (54.5)	39 (47.0)	87 (49.4)	70 (44.0)
BMI, kg/m ² , mean (SD)	29.4 (5.6)	29.1 (5.8)	30.1 (7.1)	29.0 (5.9)	28.7 (5.5)	28.6 (5.2)	29.9 (6.5)	29.9 (5.4)
Race, n (%)								
American Indian/Alaskan native	0	0	0	0	0	0	0	0
Asian	6 (4.3)	3 (1.9)	8 (3.7)	12 (4.9)	2 (2.3)	3 (3.6)	4 (2.3)	4 (2.5)
Black	0	0	0	0	0	0	0	0
Native Hawaiian or other Pacific Islander	0	0	0	0	0	0	0	0
White	134 (95.7)	152 (97.4)	209 (96.3)	231 (94.7)	85 (96.6)	80 (96.4)	171 (97.2)	154 (96.9)
Other/mixed	0	1 (0.6)	0	0	1 (1.1)	0	1 (0.6)	1 (0.6)
Missing	0	0	0	1 (0.4)	0	0	0	0
Time since PsA diagnosis, years, mean (SD)	6.6 (7.7)	6.1 (6.6)	7.0 (8.2) ^a	6.2 (8.0) ^b	8.9 (8.1) ^c	8.8 (7.1) ^c	10.3 (10.6) ^c	9.6 (9.2)
Time since plaque-type psoriasis diagnosis, years, mean (SD)	16.5 (12.2)	17.0 (12.8) ^d	16.3 (12.5)	15.9 (13.7)	18.7 (11.6)	17.9 (11.8)	18.9 (13.6) ^c	17.8 (13.2) ^c
Any csDMARD at baseline, n (%)	95 (67.9)	108 (69.2)	153 (70.5)	166 (68.0)	42 (47.7)	46 (55.4)	95 (54.0)	82 (51.6)
Concomitant methotrexate, n (%)	83 (59.3)	92 (59.0)	126 (58.1)	146 (59.8)	35 (39.8)	38 (45.8)	80 (45.5)	72 (45.3)
Prior TNFi exposure, n (%)								
Inadequate response to 1 TNFi	NA	NA	NA	NA	67 (76.1)	64 (77.1)	142 (80.7)	119 (74.8)

	BE OPTIMAL (biologic-naïve)				BE COMPLETE (TNFi-IR)			
	PBO		BKZ 160 mg Q4W		PBO		BKZ 160 mg Q4W	
	≥3% BSA n=140	mNAPSI >0 n=156	≥3% BSA n=217	mNAPSI >0 n=244	≥3% BSA n=88	mNAPSI >0 n=83	≥3% BSA n=176	mNAPSI >0 n=159
Inadequate response to 2 TNFi	NA	NA	NA	NA	11 (12.5)	5 (6.0)	12 (6.8)	16 (10.1)
Intolerance to TNFi	NA	NA	NA	NA	10 (11.4)	14 (16.9)	22 (12.5)	24 (15.1)
SJC (of 66 joints), mean (SD)	9.9 (7.2)	9.6 (8.0)	9.5 (6.5)	9.5 (6.7)	10.8 (8.6)	10.9 (9.1)	10.0 (7.9)	10.8 (8.9)
TJC (of 68 joints), mean (SD)	17.3 (11.9)	16.6 (11.9)	17.4 (12.2)	17.6 (12.4)	19.9 (14.7)	19.2 (14.2)	18.1 (12.7)	19.2 (14.5)
hs-CRP, mg/L, mean (SD)	14.0 (26.5)	11.2 (20.8)	10.8 (14.8)	9.6 (13.9)	13.0 (17.5)	13.2 (20.2)	14.2 (19.6)	12.7 (19.5)
BSA affected by psoriasis, n (%)								
≥3–≤10%	92 (65.7)	54 (34.6)	144 (66.4)	80 (32.8)	63 (71.6)	36 (43.4)	109 (61.9)	58 (36.5)
>10%	48 (34.3)	34 (21.8)	73 (33.6)	53 (21.7)	25 (28.4)	18 (21.7)	67 (38.1)	47 (29.6)
PASI score, mean (SD)	7.9 (5.6)	9.0 (6.0) ^e	8.2 (6.8)	9.2 (7.8) ^e	8.5 (6.6)	9.3 (7.4) ^e	10.2 (9.1)	11.8 (10.2) ^e
mNAPSI score, mean (SD)	4.5 (2.2) ^e	4.0 (2.1)	4.4 (2.5) ^{e,f}	4.1 (2.5)	5.1 (2.6) ^e	4.5 (2.8)	4.8 (2.9) ^e	4.3 (2.8)
Dactylitis (LDI >0), n (%)	10 (7.1)	12 (7.7)	27 (12.4) ^f	46 (18.9)	7 (8.0)	9 (10.8)	21 (11.9)	24 (15.1)
LDI score, ^g mean (SD)	58.0 (46.3)	47.4 (43.5)	58.2 (73.1)	49.3 (58.5)	38.9 (27.3)	33.9 (26.1)	67.8 (86.3)	79.9 (132.8)
Enthesitis (LEI >0), n (%)	34 (24.3)	43 (27.6)	61 (28.1) ^f	84 (34.4)	20 (22.7)	25 (30.1)	63 (35.8)	64 (40.3)
LEI score, ^h mean (SD)	2.5 (1.3)	2.7 (1.5)	2.5 (1.5)	2.3 (1.4)	3.0 (1.5)	2.9 (1.6)	2.7 (1.4)	2.3 (1.4)
PhGA-PsA score, mean (SD)	61.5 (13.7) ^c	58.7 (15.1)	60.3 (15.3) ^f	58.8 (16.1)	62.2 (16.9)	55.3 (18.8)	61.8 (17.6)	61.3 (15.4)
PtGA-PsA score, mean (SD)	63.6 (21.9)	59.7 (23.8)	59.2 (22.9) ^c	55.9 (23.5)	68.0 (18.9)	62.8 (21.6)	62.6 (22.2)	61.5 (20.9)
HAQ-DI score, mean (SD)	0.93 (0.63)	0.90 (0.62)	0.87 (0.59) ^c	0.82 (0.59)	1.15 (0.67)	0.97 (0.70)	1.01 (0.55)	0.99 (0.58)
Pain VAS score, mean (SD)	60.4 (21.7)	57.0 (24.2)	55.5 (24.3) ^c	54.2 (24.2)	66.1 (22.0)	59.6 (25.4)	59.0 (24.9)	60.1 (22.7)
SF-36 PCS score, mean (SD)	36.0 (9.6)	36.7 (9.9)	37.4 (9.6) ^c	37.8 (9.3)	34.7 (9.9)	36.4 (9.9)	36.1 (8.4)	36.7 (8.6)
SF-36 MCS score, mean (SD)	54.5 (8.6)	54.2 (8.9)	54.5 (8.8) ^c	54.1 (9.1)	54.5 (11.4)	55.5 (8.8)	52.7 (9.7)	53.7 (9.7)
PsAID-12 total score, mean (SD)	4.3 (1.9)	4.3 (2.0)	4.3 (1.8) ^c	4.1 (1.9)	4.9 (1.9)	4.3 (2.0)	4.8 (2.0)	4.5 (2.1)
FACIT-Fatigue score, mean (SD)	35.7 (10.2)	36.0 (9.8)	37.8 (8.9) ^c	37.4 (9.5)	35.8 (9.9)	36.4 (9.4)	34.8 (9.9)	35.1 (11.0)
BASDAI total score, ⁱ mean (SD)	6.2 (1.3)	6.3 (1.3)	6.1 (1.3)	6.1 (1.3)	6.5 (1.2)	6.5 (1.2)	6.3 (1.3)	6.3 (1.3)

Randomised set. In participants with plaque-type psoriasis ($\geq 3\%$ BSA) or nail involvement (mNAPSI >0) at baseline. Biologic-naïve refers to participants naïve to biologic disease-modifying antirheumatic drugs. [a] Data missing for 4 participants; [b] Data missing for 5 participants; [c] Data missing for 1 participant; [d] Data missing for 3 participants; [e] In participants with plaque-type psoriasis ($\geq 3\%$ BSA) and nail involvement (mNAPSI >0) at baseline; BE OPTIMAL: PBO n=88, BKZ n=133; BE COMPLETE: PBO n=54, BKZ n=105; [f] Data missing for 2 participants; [g] In participants with dactylitis (LDI >0) at baseline; [h] In participants with enthesitis (LEI >0) at baseline; [i] In participants with BASDAI ≥ 4 at baseline; BE OPTIMAL $\geq 3\%$ BSA: PBO n=107, BKZ n=164; BE OPTIMAL mNAPSI >0 : PBO n=118, BKZ n=183; BE COMPLETE $\geq 3\%$ BSA: PBO n=70, BKZ n=134; BE COMPLETE mNAPSI >0 : PBO n=55, BKZ n=122. BASDAI: Bath Ankylosing Spondylitis Disease Activity Index; BKZ: bimekizumab; BSA: body surface area; BMI: body mass index; csDMARD: conventional synthetic disease-modifying antirheumatic drug; FACIT-Fatigue: Functional Assessment of Chronic Illness Therapy-Fatigue; HAQ-DI: Health Assessment Questionnaire-Disability Index; hs-CRP: high sensitivity C-reactive protein; LDI: Leeds Dactylitis Index; LEI: Leeds Enthesitis Index; NA: not applicable; mNAPSI: modified Nail Psoriasis Severity Index; PASI: Psoriasis Area and Severity Index; PBO: placebo; PtGA-PsA: Patient's Global Assessment of Psoriatic Arthritis; PhGA-PsA: Physician's Global Assessment of Psoriatic Arthritis; PsA: psoriatic arthritis; PsAID-12: 12-item Psoriatic Arthritis Impact of Disease questionnaire; Q4W: every 4 weeks; SF-36 MCS: Short-Form 36-item Health Survey Mental Component Summary; SF-36 PCS: Short-Form 36-item Health Survey Physical Component Summary; SD: standard deviation; SJC: swollen joint count; TJC: tender joint count; TNFi: tumour necrosis factor inhibitors; TNFi-IR: prior inadequate response or intolerance to tumour necrosis factor inhibitors; VAS: visual analogue scale.

Supplementary Table 2. Participant demographics and baseline characteristics in participants with baseline plaque-type psoriasis ($\geq 3\%$ BSA), baseline nail involvement (mNAPSI >0) or baseline skin and nail involvement in the reference arm (adalimumab) of BE OPTIMAL

	BE OPTIMAL (biologic-naïve)		
	ADA 40 mg Q2W		
	$\geq 3\%$ BSA n=68	mNAPSI >0 n=75	$\geq 3\%$ BSA and mNAPSI >0 n=42
Age, years, mean (SD)	47.2 (13.0)	50.3 (11.9)	49.8 (11.8)
Sex, n (%)			
Male	33 (48.5)	44 (58.7)	23 (54.8)
Female	35 (51.5)	31 (41.3)	19 (45.2)
BMI, kg/m ² , mean (SD)	28.6 (5.6)	28.4 (5.6)	29.2 (6.1)
Race, n (%)			
American Indian/Alaskan native	0	0	0
Asian	3 (4.4)	3 (4.0)	2 (4.8)
Black	1 (1.5)	0	0
Native Hawaiian or other Pacific Islander	0	0	0
White	64 (94.1)	72 (96.0)	40 (95.2)
Other/mixed	0	0	0
Time since PsA diagnosis, years, mean (SD)	5.8 (6.7)	6.5 (6.6) ^a	6.5 (7.1)
Time since plaque-type psoriasis diagnosis, years, mean (SD)	15.9 (12.3)	16.8 (12.3) ^a	17.8 (12.7)
Any csDMARD at baseline, n (%)	46 (67.6)	54 (72.0)	28 (66.7)
Concomitant methotrexate, n (%)	37 (54.4)	42 (56.0)	22 (52.4)
SJC (of 66 joints), mean (SD)	10.2 (7.7)	9.4 (6.3)	9.2 (6.0)
TJC (of 68 joints), mean (SD)	20.0 (13.4)	16.8 (11.7)	19.0 (11.7)
hs-CRP, mg/L, mean (SD)	6.8 (7.4)	6.7 (9.4)	7.2 (7.0)
BSA affected by psoriasis, n (%)			
≥ 3 – $\leq 10\%$	42 (61.8)	25 (33.3)	25 (59.5)
$>10\%$	26 (38.2)	17 (22.7)	17 (40.5)
PASI score, mean (SD)	8.6 (7.6)	9.2 (8.4) ^b	9.2 (8.4)
mNAPSI score, mean (SD)	4.0 (2.0) ^b	3.7 (2.3)	4.0 (2.0)
Dactylitis (LDI >0), n (%)	8 (11.8)	7 (9.3) ^a	5 (11.9)
LDI score, ^c mean (SD)	60.1 (31.3)	53.4 (36.2)	64.3 (38.0)
Enthesitis (LEI >0), n (%)	15 (22.1)	17 (22.7)	10 (23.8)
LEI score, ^d mean (SD)	2.5 (1.6)	2.4 (1.7)	2.5 (1.7)
PhGA-PsA score, mean (SD)	61.4 (18.0) ^a	58.4 (18.4) ^a	61.9 (19.6) ^a
PtGA-PsA score, mean (SD)	61.8 (19.6)	56.2 (22.4)	61.5 (20.5)
HAQ-DI score, mean (SD)	0.91 (0.56)	0.87 (0.53)	0.96 (0.54)
Pain VAS score, mean (SD)	59.9 (22.9)	55.0 (25.5)	59.1 (24.8)
SF-36 PCS score, mean (SD)	36.3 (8.6)	37.2 (8.5)	35.9 (8.4)
SF-36 MCS score, mean (SD)	54.4 (7.9)	54.8 (7.1)	53.1 (7.5)
PsAID-12 total score, mean (SD)	4.7 (1.8)	4.3 (1.7)	4.6 (1.7)
FACIT-Fatigue score, mean (SD)	35.9 (9.3)	36.4 (8.9)	36.1 (9.0)
BASDAI total score, ^e mean (SD)	6.4 (1.5)	6.1 (1.3)	6.2 (1.4)

Randomised set. Only data from BE OPTIMAL (biologic-naïve) shown. In participants with plaque-type psoriasis ($\geq 3\%$ BSA), nail involvement (mNAPSI >0) or plaque-type psoriasis and nail involvement at baseline. Biologic-naïve refers to participants naïve to biologic disease-modifying antirheumatic drugs. [a] Data missing for 1 participant; [b] In participants with plaque-type psoriasis ($\geq 3\%$ BSA) and nail involvement (mNAPSI >0) at baseline: n=42; [c] In participants with dactylitis (LDI >0) at baseline; [d] In participants with enthesitis (LEI >0) at baseline; [e] In participants with BASDAI ≥ 4 at baseline; $\geq 3\%$ BSA: n=55; mNAPSI >0 : n=56; $\geq 3\%$ BSA and mNAPSI >0 : n=35. ADA: adalimumab; BASDAI:

Bath Ankylosing Spondylitis Disease Activity Index; BSA: body surface area; BMI: body mass index; csDMARD: conventional synthetic disease-modifying antirheumatic drug; FACIT-Fatigue: Functional Assessment of Chronic Illness Therapy-Fatigue; HAQ-DI: Health Assessment Questionnaire-Disability Index; hs-CRP: high sensitivity C-reactive protein; LDI: Leeds Dactylitis Index; LEI: Leeds Enthesitis Index; mNAPSI: modified Nail Psoriasis Severity Index; PASI: Psoriasis Area and Severity Index; PtGA-PsA: Patient's Global Assessment of Psoriatic Arthritis; PhGA-PsA: Physician's Global Assessment of Psoriatic Arthritis; PsA: psoriatic arthritis; PsAID-12: 12-item Psoriatic Arthritis Impact of Disease questionnaire; Q2W: every 2 weeks; SF-36 MCS: Short-Form 36-item Health Survey Mental Component Summary; SF-36 PCS: Short-Form 36-item Health Survey Physical Component Summary; SD: standard deviation; SJC: swollen joint count; TJC: tender joint count; TNFi: tumour necrosis factor inhibitors; TNFi-IR: prior inadequate response or intolerance to tumour necrosis factor inhibitors; VAS: visual analogue scale.

Supplementary Table 3. Participant demographics, baseline characteristics, and efficacy outcomes at Weeks 52 in participants with neither baseline plaque-type psoriasis (<3% BSA) nor nail involvement (mNAPSI=0)

	BE OPTIMAL (biologic-naïve)		BE COMPLETE (TNFi-IR)	
	PBO n=73	BKZ 160 mg Q4W n=98	PBO n=15	BKZ 160 mg Q4W n=37
Baseline Participant Demographics				
Age, years, mean (SD)	48.4 (12.6)	50.8 (13.5)	59.8 (8.2)	51.2 (11.7)
Sex, n (%)				
Male	26 (35.6)	42 (42.9)	6 (40.0)	12 (32.4)
Female	47 (64.4)	56 (57.1)	9 (60.0)	25 (67.6)
BMI, kg/m ² , mean (SD)	31.1 (7.0)	28.8 (7.2)	30.3 (5.7)	31.8 (7.9)
Race, n (%)				
American	0	1 (1.0)	0	0
Indian/Alaskan native				
Asian	1 (1.4)	3 (3.1)	1 (6.7)	2 (5.4)
Black	0	1 (1.0)	0	0
Native Hawaiian or other Pacific Islander	0	0	0	0
White	69 (94.5)	92 (93.9)	14 (93.3)	34 (91.9)
Other/mixed	3 (4.1)	1 (1.0)	0	1 (2.7)
Time since PsA diagnosis, years, mean (SD)	4.4 (5.2) ^a	5.5 (6.5) ^b	10.9 (10.8)	9.4 (9.5)
Time since plaque-type psoriasis diagnosis, years, mean (SD)	13.2 (13.9) ^b	12.9 (14.3) ^b	14.4 (12.0)	15.2 (13.9)
Any csDMARD at baseline, n (%)	50 (68.5)	67 (68.4)	5 (33.3)	17 (45.9)
Concomitant methotrexate, n (%)	40 (54.8)	56 (57.1)	4 (26.7)	15 (40.5)
Prior TNFi exposure, n (%)				
Inadequate response to 1 TNFi	NA	NA	13 (86.7)	25 (67.6)
Inadequate response to 2 TNFi	NA	NA	2 (13.3)	7 (18.9)
Intolerance to TNFi	NA	NA	0	5 (13.5)
BSA affected by psoriasis, n (%)				
≥3–≤10%	0	0	0	0
>10%	0	0	0	0
PASI score, ^c mean (SD)	NC	NC	NC	NC
mNAPSI score, mean (SD)	0	0	0	0
	PBO → BKZ 160 mg Q4W n=73	BKZ 160 mg Q4W n=98	PBO → BKZ 160 mg Q4W n=15	BKZ 160 mg Q4W n=37
Efficacy Outcomes at Week 52 (NRI)				
ACR50 response, n (%)	26 (35.6)	44 (44.9)	4 (26.7)	11 (29.7)
MDA response, n (%)	29 (39.7)	44 (44.9)	2 (13.3)	14 (37.8)
SJC=0 (of 66 joints), n (%)	30 (41.1)	52 (53.1)	4 (26.7)	12 (32.4)

Randomised set. In participants with neither plaque-type psoriasis (<3% BSA) nor nail involvement (mNAPSI=0) at baseline. Biologic-naïve refers to participants naïve to biologic disease-modifying antirheumatic drugs. Baseline data reported as observed; efficacy outcomes reported using NRI. [a] Data missing for 2 participants; [b] Data missing for 1 participant; [c] Only assessed in participants with plaque-type psoriasis affecting ≥3% of BSA at baseline. ACR50: ≥50% improvement from baseline

in American College of Rheumatology response criteria; BKZ: bimekizumab; BMI: body mass index; BSA: body surface area; csDMARD: conventional synthetic disease-modifying antirheumatic drug; MDA: Minimal Disease Activity; mNAPSI: modified Nail Psoriasis Severity Index; NA: not applicable; NC: not calculated; NRI: non-responder imputation; PASI: Psoriasis Area and Severity Index; PBO: placebo; PsA: psoriatic arthritis; Q4W: every 4 weeks; SD: standard deviation; SJC: swollen joint count; TNFi: tumour necrosis factor inhibitors; TNFi-IR: prior inadequate response or intolerance to tumour necrosis factor inhibitors.

Supplementary Table 4. Participant demographics, baseline characteristics, and efficacy outcomes at Week 52 in participants with neither baseline plaque-type psoriasis (<3% BSA) nor nail involvement (mNAPSI=0) in the reference arm (adalimumab) of BE OPTIMAL

	BE OPTIMAL (biologic-naïve)
	ADA 40 mg Q2W n=39
Baseline Participant Demographics	
Age, years, mean (SD)	50.6 (12.7)
Sex, n (%)	
Male	17 (43.6)
Female	22 (56.4)
BMI, kg/m ² , mean (SD)	28.9 (7.3)
Race, n (%)	
American Indian/Alaskan native	0
Asian	0
Black	0
Native Hawaiian or other Pacific Islander	0
White	37 (94.9)
Other/mixed	0
Missing	2 (5.1)
Time since PsA diagnosis, years, mean (SD)	6.4 (7.5)
Time since plaque-type psoriasis diagnosis, years, mean (SD)	13.5 (13.6)
Any csDMARD at baseline, n (%)	27 (69.2)
Concomitant methotrexate, n (%)	25 (64.1)
BSA affected by psoriasis, n (%)	
≥3–≤10%	0
>10%	0
PASI score, mean (SD)	NC
mNAPSI score, mean (SD)	0
	ADA 40 mg Q2W n=39
Efficacy Outcomes at Week 52 (NRI)	
ACR50 response, n (%)	13 (33.3)
MDA response, n (%)	17 (43.6)
SJC=0 (of 66 joints), n (%)	19 (48.7)

Randomised set. Only data from BE OPTIMAL (biologic-naïve) shown. In participants with neither plaque-type psoriasis (<3% BSA) nor nail involvement (mNAPSI=0) at baseline. Biologic-naïve refers to participants naïve to biologic disease-modifying antirheumatic drugs. Baseline data reported as observed; efficacy outcomes reported using NRI. ACR50: ≥50% improvement from baseline in American College of Rheumatology response criteria; ADA: adalimumab; BMI: body mass index; BSA: body surface area; csDMARD: conventional synthetic disease-modifying antirheumatic drug; MDA: Minimal Disease Activity; mNAPSI: modified Nail Psoriasis Severity Index; NC: not calculated; NRI: non-responder imputation; PASI: Psoriasis Area and Severity Index; PsA: psoriatic arthritis; Q2W: every 2 weeks; SD: standard deviation; SJC: swollen joint count.

Supplementary Table 5. PsAID-12 single-item domain mean scores at baseline, Week 16 and Week 52 (BE OPTIMAL) or Week 40 (BE COMPLETE) in participants with baseline plaque-type psoriasis ($\geq 3\%$ BSA), baseline nail involvement (mNAPSI >0) or baseline plaque-type psoriasis and nail involvement (MI)

Mean (SE)	BE OPTIMAL (biologic-naïve)																	
	PBO → BKZ 160 mg Q4W									BKZ 160 mg Q4W								
	$\geq 3\%$ BSA n=140			mNAPSI >0 n=156			$\geq 3\%$ BSA and mNAPSI >0 n=88			$\geq 3\%$ BSA n=217			mNAPSI >0 n=244			$\geq 3\%$ BSA and mNAPSI >0 n=133		
	BL	Wk 16	Wk 52	BL	Wk 16	Wk 52	BL	Wk 16	Wk 52	BL	Wk 16	Wk 52	BL	Wk 16	Wk 52	BL	Wk 16	Wk 52
Pain	5.6 (0.2)	5.1 (0.2)	2.5 (0.2)	5.5 (0.2)	4.9 (0.2)	2.5 (0.2)	5.6 (0.2)	5.2 (0.2)	2.5 (0.2)	5.5 (0.2)	2.9 (0.2)	2.2 (0.1)	5.3 (0.1)	3.0 (0.2)	2.3 (0.1)	5.5 (0.2)	2.7 (0.2)	2.3 (0.2)
Fatigue	4.7 (0.2)	4.2 (0.2)	2.3 (0.2)	4.9 (0.2)	4.1 (0.2)	2.4 (0.2)	4.8 (0.3)	4.1 (0.3)	2.3 (0.2)	4.8 (0.2)	2.7 (0.2)	2.1 (0.2)	4.7 (0.2)	2.8 (0.2)	2.3 (0.2)	4.8 (0.2)	2.6 (0.2)	2.2 (0.2)
Skin problems	5.4 (0.2)	5.0 (0.2)	1.5 (0.2)	4.8 (0.2)	4.3 (0.2)	1.5 (0.2)	5.9 (0.3)	5.3 (0.3)	1.6 (0.2)	5.6 (0.2)	1.6 (0.1)	1.3 (0.1)	4.8 (0.2)	1.7 (0.1)	1.3 (0.1)	5.9 (0.2)	1.8 (0.2)	1.3 (0.1)
Work and/or leisure activities	4.5 (0.2)	4.3 (0.2)	1.9 (0.2)	4.6 (0.2)	4.0 (0.2)	2.0 (0.2)	4.5 (0.3)	4.3 (0.2)	2.0 (0.2)	4.7 (0.2)	2.2 (0.2)	1.6 (0.1)	4.5 (0.2)	2.2 (0.1)	1.6 (0.1)	4.8 (0.2)	2.1 (0.2)	1.6 (0.2)
Functional capacity	4.7 (0.2)	4.3 (0.2)	2.1 (0.2)	4.7 (0.2)	4.3 (0.2)	2.2 (0.2)	4.8 (0.3)	4.5 (0.3)	2.2 (0.2)	4.9 (0.2)	2.4 (0.2)	1.9 (0.2)	4.6 (0.2)	2.4 (0.1)	1.9 (0.1)	4.9 (0.2)	2.3 (0.2)	1.9 (0.2)
Discomfort	4.2 (0.2)	3.9 (0.2)	1.8 (0.2)	4.5 (0.2)	3.7 (0.2)	1.9 (0.2)	4.3 (0.3)	3.8 (0.3)	1.8 (0.2)	4.5 (0.2)	1.9 (0.2)	1.4 (0.1)	4.3 (0.2)	2.1 (0.1)	1.6 (0.1)	4.5 (0.2)	1.9 (0.2)	1.5 (0.2)
Sleep disturbance	3.8 (0.3)	3.1 (0.2)	1.7 (0.2)	3.9 (0.2)	3.2 (0.2)	1.7 (0.2)	3.9 (0.3)	3.0 (0.3)	1.6 (0.2)	3.4 (0.2)	1.8 (0.2)	1.4 (0.2)	3.5 (0.2)	2.0 (0.2)	1.7 (0.2)	3.3 (0.3)	1.7 (0.2)	1.5 (0.2)
Coping	4.0 (0.2)	3.5 (0.2)	1.6 (0.2)	4.1 (0.2)	3.3 (0.2)	1.7 (0.2)	4.3 (0.3)	3.5 (0.2)	1.7 (0.2)	3.9 (0.2)	1.8 (0.1)	1.3 (0.1)	3.7 (0.2)	1.9 (0.1)	1.5 (0.1)	3.9 (0.2)	1.8 (0.2)	1.4 (0.2)
Anxiety, fear and uncertainty	2.4 (0.2)	2.1 (0.2)	1.3 (0.2)	2.5 (0.2)	2.2 (0.2)	1.4 (0.2)	2.2 (0.3)	2.1 (0.2)	1.3 (0.2)	2.1 (0.2)	1.1 (0.1)	1.0 (0.1)	2.2 (0.2)	1.3 (0.1)	1.1 (0.1)	2.2 (0.2)	1.1 (0.1)	1.1 (0.2)
Embarrassment and/or shame	3.0 (0.2)	2.7 (0.2)	1.0 (0.2)	2.7 (0.2)	2.6 (0.2)	0.9 (0.1)	3.0 (0.3)	3.0 (0.3)	1.2 (0.2)	3.1 (0.2)	1.0 (0.1)	0.8 (0.1)	2.6 (0.2)	1.0 (0.1)	0.8 (0.1)	3.2 (0.2)	1.0 (0.2)	0.9 (0.2)
Social Participation	2.9 (0.2)	2.5 (0.2)	1.2 (0.2)	2.9 (0.2)	2.7 (0.2)	1.2 (0.2)	2.8 (0.3)	2.8 (0.3)	1.2 (0.2)	2.9 (0.2)	1.1 (0.1)	0.9 (0.1)	2.6 (0.2)	1.1 (0.1)	0.9 (0.1)	3.0 (0.2)	1.0 (0.1)	0.9 (0.2)

Depression	1.5 (0.2)	1.5 (0.2)	0.6 (0.1)	1.6 (0.2)	1.6 (0.2)	0.7 (0.1)	1.5 (0.3)	1.6 (0.3)	0.6 (0.2)	1.2 (0.1)	0.6 (0.1)	0.5 (0.1)	1.2 (0.1)	0.7 (0.1)	0.6 (0.1)	1.4 (0.2)	0.7 (0.1)	0.6 (0.1)
BE COMPLETE (TNFi-IR)																		
PBO → BKZ 160 mg Q4W										BKZ 160 mg Q4W								
Mean (SE)	≥3% BSA n=88			mNAPSI >0 n=83			≥3% BSA and mNAPSI >0 n=54			≥3% BSA n=176			mNAPSI >0 n=159			≥3% BSA and mNAPSI >0 n=105		
	BL	Wk 16	Wk 40	BL	Wk 16	Wk 40	BL	Wk 16	Wk 40	BL	Wk 16	Wk 40	BL	Wk 16	Wk 40	BL	Wk 16	Wk 40
Pain	6.4 (0.2)	5.8 (0.3)	3.3 (0.3)	5.6 (0.3)	5.3 (0.3)	3.1 (0.3)	6.2 (0.3)	5.6 (0.3)	3.1 (0.4)	5.9 (0.2)	3.1 (0.2)	2.7 (0.2)	5.7 (0.2)	2.9 (0.2)	2.5 (0.2)	5.9 (0.2)	2.8 (0.2)	2.5 (0.2)
Fatigue	5.2 (0.3)	4.9 (0.3)	2.8 (0.3)	4.7 (0.3)	4.5 (0.3)	2.9 (0.3)	5.0 (0.3)	4.8 (0.4)	2.8 (0.3)	5.4 (0.2)	2.8 (0.2)	2.7 (0.2)	5.2 (0.2)	2.7 (0.2)	2.5 (0.2)	5.4 (0.2)	2.5 (0.2)	2.5 (0.2)
Skin problems	6.3 (0.3)	5.6 (0.3)	1.9 (0.3)	5.3 (0.3)	4.8 (0.3)	1.7 (0.2)	6.2 (0.3)	5.6 (0.4)	1.8 (0.3)	5.8 (0.2)	1.8 (0.2)	1.4 (0.2)	5.2 (0.2)	1.8 (0.2)	1.5 (0.2)	6.1 (0.3)	1.8 (0.2)	1.4 (0.2)
Work and/or leisure activities	5.3 (0.3)	4.7 (0.3)	2.5 (0.3)	4.8 (0.3)	4.2 (0.3)	2.5 (0.3)	5.3 (0.3)	4.7 (0.3)	2.6 (0.4)	5.1 (0.2)	2.2 (0.2)	2.0 (0.2)	4.9 (0.2)	2.1 (0.2)	1.8 (0.2)	5.3 (0.2)	2.0 (0.2)	1.8 (0.2)
Functional capacity	5.6 (0.3)	4.9 (0.3)	2.6 (0.2)	5.1 (0.3)	4.6 (0.3)	2.6 (0.3)	5.6 (0.4)	5.0 (0.4)	2.6 (0.3)	5.4 (0.2)	2.4 (0.2)	2.2 (0.2)	5.1 (0.2)	2.3 (0.2)	2.0 (0.2)	5.4 (0.2)	2.2 (0.2)	2.0 (0.2)
Discomfort	5.2 (0.3)	4.8 (0.3)	2.0 (0.2)	4.5 (0.3)	4.2 (0.3)	2.2 (0.3)	5.0 (0.3)	4.6 (0.4)	2.3 (0.3)	5.1 (0.2)	2.2 (0.2)	2.0 (0.2)	4.9 (0.2)	2.1 (0.2)	1.8 (0.2)	5.3 (0.3)	1.9 (0.2)	1.7 (0.2)
Sleep disturbance	3.9 (0.3)	4.0 (0.3)	2.0 (0.3)	3.3 (0.3)	3.6 (0.3)	2.2 (0.3)	3.7 (0.4)	3.8 (0.4)	2.1 (0.4)	4.2 (0.2)	1.9 (0.2)	2.0 (0.2)	4.1 (0.2)	1.9 (0.2)	1.8 (0.2)	4.3 (0.3)	1.7 (0.2)	1.9 (0.2)
Coping	4.8 (0.3)	4.2 (0.3)	2.1 (0.2)	4.2 (0.3)	4.1 (0.3)	2.2 (0.2)	4.7 (0.3)	4.4 (0.3)	2.3 (0.3)	4.3 (0.2)	2.0 (0.2)	1.9 (0.2)	4.1 (0.2)	1.9 (0.2)	1.7 (0.2)	4.3 (0.2)	1.9 (0.2)	1.7 (0.2)
Anxiety, fear and uncertainty	2.2 (0.3)	2.4 (0.3)	1.2 (0.2)	2.1 (0.3)	2.3 (0.3)	1.4 (0.2)	2.3 (0.4)	2.6 (0.4)	1.5 (0.3)	2.6 (0.2)	1.1 (0.1)	1.1 (0.1)	2.3 (0.2)	1.2 (0.1)	1.0 (0.1)	2.6 (0.3)	1.0 (0.2)	0.9 (0.2)
Embarrassment and/or shame	3.4 (0.3)	3.0 (0.3)	1.1 (0.2)	2.7 (0.3)	2.5 (0.3)	1.2 (0.2)	3.4 (0.4)	2.9 (0.4)	1.2 (0.3)	3.3 (0.2)	1.0 (0.1)	0.9 (0.1)	2.9 (0.2)	0.9 (0.1)	0.8 (0.1)	3.5 (0.3)	1.0 (0.2)	0.8 (0.2)
Social Participation	3.5 (0.3)	2.9 (0.3)	1.4 (0.2)	3.3 (0.3)	2.9 (0.3)	1.4 (0.2)	3.6 (0.4)	3.0 (0.4)	1.4 (0.3)	3.4 (0.2)	1.3 (0.1)	1.3 (0.2)	3.1 (0.2)	1.2 (0.2)	1.1 (0.2)	3.6 (0.3)	1.2 (0.2)	1.1 (0.2)
Depression	1.8 (0.3)	1.9 (0.3)	0.8 (0.2)	1.4 (0.2)	1.6 (0.3)	0.9 (0.2)	1.8 (0.3)	1.9 (0.3)	0.9 (0.2)	2.1 (0.2)	0.8 (0.1)	0.8 (0.1)	1.8 (0.2)	0.7 (0.1)	0.6 (0.1)	2.3 (0.3)	0.7 (0.1)	0.6 (0.1)

Randomised set. In participants with plaque-type psoriasis ($\geq 3\%$ BSA), nail involvement (mNAPSI > 0) or plaque-type psoriasis and nail involvement at baseline. Biologic-naïve refers to participants naïve to biologic disease-modifying antirheumatic drugs. PsAID-12 scores range from 0–10; higher scores indicate worse status [1]. BKZ: bimekizumab; BL: baseline; BSA: body surface area; MI: multiple imputation; mNAPSI: modified Nail Psoriasis Severity Index; PBO: placebo; PsAID-12: 12-item Psoriatic Arthritis Impact of Disease questionnaire; Q4W: every 4 weeks; SE: standard error; TNFi-IR: prior inadequate response or intolerance to tumour necrosis factor inhibitors; Wk: week.

Supplementary Table 6. Efficacy outcomes at Week 52 in participants with baseline plaque-type psoriasis ($\geq 3\%$ BSA) or baseline nail involvement (mNAPSI >0 ; NRI, MI, WCI)

	BE OPTIMAL (biologic-naïve)				BE COMPLETE (TNFi-IR)			
	PBO → BKZ 160 mg Q4W		BKZ 160 mg Q4W		PBO → BKZ 160 mg Q4W		BKZ 160 mg Q4W	
	$\geq 3\%$ BSA n=140	mNAPSI >0 n=156	$\geq 3\%$ BSA n=217	mNAPSI >0 n=244	$\geq 3\%$ BSA n=88	mNAPSI >0 n=83	$\geq 3\%$ BSA n=176	mNAPSI >0 n=159
ACR20 response, n (%)	104 (74.3)	112 (71.8)	164 (75.6)	183 (75.0)	59 (67.0)	54 (65.1)	128 (72.7)	123 (77.4)
ACR50 response, n (%)	87 (62.1)	92 (59.0)	131 (60.4)	144 (59.0)	42 (47.7)	36 (43.4)	98 (55.7)	93 (58.5)
ACR70 response, n (%)	56 (40.0)	58 (37.2)	95 (43.8)	109 (44.7)	29 (33.0)	24 (28.9)	72 (40.9)	65 (40.9)
PASI75 response, ^a n/N (%)	119/140 (85.0)	75/88 (85.2)	176/217 (81.1)	109/133 (82.0)	71/88 (80.7)	46/54 (85.2)	148/176 (84.1)	93/105 (88.6)
PASI90 response, ^a n/N (%)	106/140 (75.7)	67/88 (76.1)	154/217 (71.0)	99/133 (74.4)	65/88 (73.9)	42/54 (77.8)	131/176 (74.4)	79/105 (75.2)
PASI100 response, ^a n/N (%)	91/140 (65.0)	57/88 (64.8)	131/217 (60.4)	81/133 (60.9)	53/88 (60.2)	31/54 (57.4)	116/176 (65.9)	67/105 (63.8)
PASI $\leq 1^a$ or BSA $\leq 3\%$, n (%)	123 (87.9)	143 (91.7)	180 (82.9)	223 (91.4)	72 (81.8)	75 (90.4)	143 (81.3)	142 (89.3)
MDA response, n (%)	78 (55.7)	87 (55.8)	124 (57.1)	145 (59.4)	33 (37.5)	31 (37.3)	86 (48.9)	81 (50.9)
VLDA response, n (%)	28 (20.0)	31 (19.9)	69 (31.8)	77 (31.6)	17 (19.3)	14 (16.9)	49 (27.8)	46 (28.9)
ACR50+PASI100 response, ^a n/N (%)	65/140 (46.4)	44/88 (50.0)	101/217 (46.5)	64/133 (48.1)	30/88 (34.1)	18/54 (33.3)	82/176 (46.6)	51/105 (48.6)
mNAPSI=0, ^b n/N (%)	65/88 (73.9)	111/156 (71.2)	91/133 (68.4)	159/244 (65.2)	34/54 (63.0)	51/83 (61.4)	74/105 (70.5)	108/159 (67.9)
SJC=0 (of 66 joints), n (%)	92 (65.7)	100 (64.1)	142 (65.4)	156 (63.9)	55 (62.5)	54 (65.1)	112 (63.6)	93 (58.5)
TJC=0 (of 68 joints), n (%)	36 (25.7)	45 (28.8)	79 (36.4)	87 (35.7)	21 (23.9)	21 (25.3)	53 (30.1)	43 (27.0)
DAPSA disease state [WCI], ^c n (%)								
LDA+REM	96 (68.6)	113 (72.4)	152 (70.0)	166 (68.0)	48 (54.5)	47 (56.6)	112 (63.6)	101 (63.5)
REM	34 (24.3)	41 (26.3)	84 (38.7)	97 (39.8)	23 (26.1)	19 (22.9)	64 (36.4)	57 (35.8)
Complete resolution of enthesitis (LEI), ^d n/N (%)	24/34 (70.6)	28/43 (65.1)	44/61 (72.1)	57/84 (67.9)	13/20 (65.0)	18/25 (72.0)	39/63 (61.9)	41/64 (64.1)

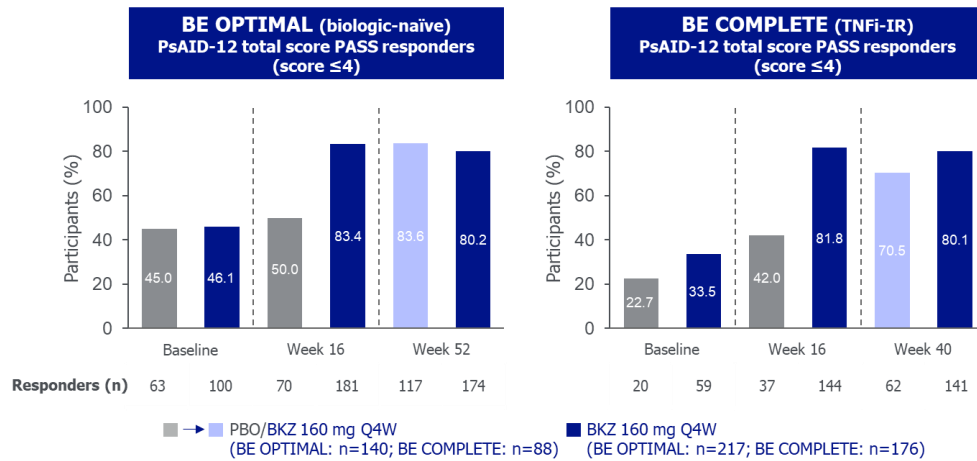
	BE OPTIMAL (biologic-naïve)				BE COMPLETE (TNFi-IR)			
	PBO → BKZ 160 mg Q4W		BKZ 160 mg Q4W		PBO → BKZ 160 mg Q4W		BKZ 160 mg Q4W	
	≥3% BSA n=140	mNAPSI >0 n=156	≥3% BSA n=217	mNAPSI >0 n=244	≥3% BSA n=88	mNAPSI >0 n=83	≥3% BSA n=176	mNAPSI >0 n=159
PhGA-PsA score CFB [MI], mean (SE)	-49.9 (1.5)	-47.8 (1.5)	-48.7 (1.3)	-47.7 (1.2)	-47.9 (2.3)	-40.1 (2.7)	-48.8 (1.5)	-46.5 (1.6)
PtGA-PsA score CFB [MI], mean (SE)	-42.0 (2.5)	-36.6 (2.5)	-39.1 (1.9)	-35.7 (1.8)	-39.0 (3.4)	-32.1 (3.4)	-37.6 (2.1)	-36.1 (2.2)
Pain VAS CFB [MI], ^e mean (SE)	-37.0 (2.4)	-32.8 (2.3)	-33.9 (1.9)	-32.2 (1.8)	-36.2 (3.2)	-28.6 (3.3)	-33.6 (2.2)	-36.4 (2.3)
Pain VAS ≥50% improvement, ^{e,f} n (%)	88 (62.9)	94 (60.3)	131 (60.4)	149 (61.1)	44 (50.0)	37 (44.6)	105 (59.7)	103 (64.8)
Pain VAS ≤15, ^e n (%)	61 (43.6)	66 (42.3)	114 (52.5)	129 (52.9)	31 (35.2)	29 (34.9)	82 (46.6)	79 (49.7)
HAQ-DI score CFB [MI], mean (SE)	-0.43 (0.05)	-0.41 (0.04)	-0.38 (0.04)	-0.33 (0.03)	-0.44 (0.07)	-0.36 (0.07)	-0.45 (0.04)	-0.44 (0.04)
HAQ-DI normative state, ^g n (%)	84 (60.0)	92 (59.0)	126 (58.1)	148 (60.7)	36 (40.9)	39 (47.0)	96 (54.5)	91 (57.2)
HAQ-DI MCID, ^h n/N (%)	69/110 (62.7)	74/122 (60.7)	104/169 (61.5)	103/183 (56.3)	43/79 (54.4)	37/66 (56.1)	93/159 (58.5)	84/138 (60.9)
FACIT-Fatigue score CFB [MI], ^h mean (SE)	6.6 (0.8)	6.0 (0.7)	5.8 (0.6)	5.8 (0.5)	5.8 (1.0)	4.4 (0.9)	6.9 (0.7)	6.9 (0.7)
FACIT-Fatigue MCID, ^{i,j} n/N (%)	75/133 (56.4)	78/146 (53.4)	109/197 (55.3)	133/224 (59.4)	40/83 (48.2)	36/74 (48.6)	113/170 (66.5)	92/148 (62.2)
SF-36 PCS score CFB [MI], ⁱ mean (SE)	9.6 (0.8)	8.9 (0.8)	9.3 (0.7)	9.0 (0.6)	8.7 (1.2)	7.6 (1.1)	9.4 (0.7)	9.3 (0.7)
SF-36 MCS score CFB, [MI], ⁱ mean (SE)	0.7 (0.7)	1.2 (0.7)	1.0 (0.6)	1.0 (0.5)	1.1 (0.9)	-0.5 (0.8)	1.5 (0.6)	1.2 (0.7)
PsAID-12 total score CFB [MI], ^{i,k} mean (SE)	-2.5 (0.2)	-2.4 (0.2)	-2.7 (0.1)	-2.4 (0.1)	-2.7 (0.2)	-2.1 (0.2)	-2.8 (0.2)	-2.7 (0.2)
BASDAI total score CFB [MI], ⁱ mean (SE)	-3.3 (0.2)	-3.2 (0.2)	-3.4 (0.2)	-3.3 (0.2)	-3.1 (0.3)	-2.8 (0.4)	-3.1 (0.2)	-3.3 (0.2)

Randomised set. NRI unless otherwise stated. In participants with plaque-type psoriasis (≥3% BSA) or nail involvement (mNAPSI >0) at baseline. Biologic-naïve refers to participants naïve to biologic disease-modifying antirheumatic drugs. [a] In participants with plaque-type psoriasis affecting ≥3% BSA at baseline; [b] In participants with nail involvement at baseline (mNAPSI >0); [c] Missing data were imputed using worst-category imputation. DAPSA REM defined as a DAPSA score of ≤4, LDA+REM defined as a

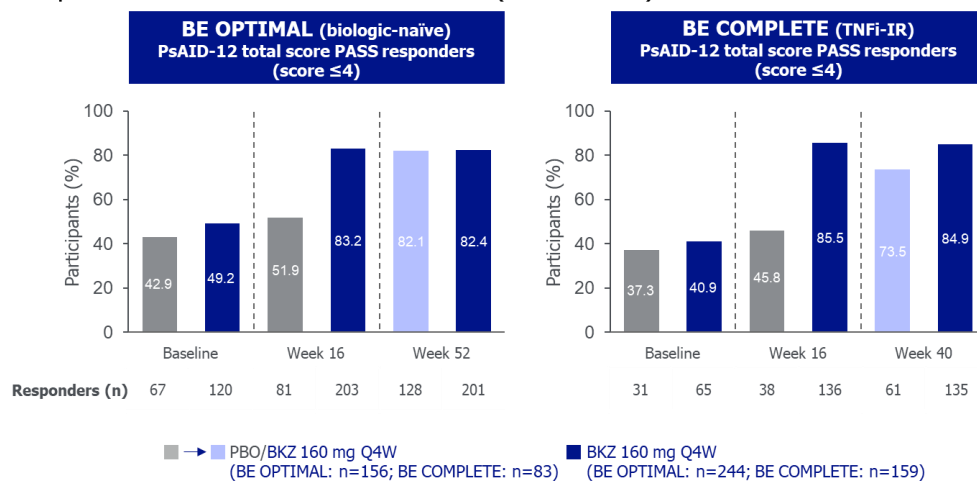
DAPSA score of ≤ 14 ; [d] In participants with enthesitis at baseline defined by LEI > 0 ; [e] Pain VAS assessed using the Patient's Assessment of Arthritis Pain VAS which ranges from 0–100, 0 representing 'no pain' and 100 'most severe pain'; [f] Pain VAS $\geq 50\%$ represents a substantial improvement in participant-reported pain [2]; [g] HAQ-DI ≤ 0.5 [3]; [h] HAQ-DI MCID defined as decrease from baseline ≥ 0.35 in participants with HAQ-DI ≥ 0.35 at baseline; [i] Reported to Week 40 in BE COMPLETE; [j] FACIT-Fatigue MCID defined as score increase from baseline ≥ 4 in participants with FACIT-Fatigue ≤ 48 at baseline; [k] PsAID-12 scores range from 0–10; higher scores indicate worse status [1]; [l] Assessed in participants with BASDAI ≥ 4 at baseline; BE OPTIMAL $\geq 3\%$ BSA: PBO/BKZ n=107, BKZ n=164; BE OPTIMAL mNAPSI > 0 : PBO/BKZ n=118, BKZ n=183; BE COMPLETE $\geq 3\%$ BSA: PBO/BKZ n=70, BKZ n=134; BE COMPLETE mNAPSI > 0 : PBO/BKZ n=55, BKZ n=122. ACR20/50/70: $\geq 20/50/70\%$ improvement from baseline in American College of Rheumatology response criteria; BASDAI: Bath Ankylosing Spondylitis Disease Activity Index; BKZ: bimekizumab; BSA: body surface area; CFB: change from baseline; DAPSA: Disease Activity Index for Psoriatic Arthritis; FACIT-Fatigue: Functional Assessment of Chronic Illness Therapy-Fatigue; HAQ-DI: Health Assessment Questionnaire-Disability Index; LDA: low disease activity; LEI: Leeds Enthesitis Index; MCID: minimal clinically important difference; MDA: Minimal Disease Activity; MI: multiple imputation; mNAPSI: modified Nail Psoriasis Severity Index; NRI: non-responder imputation; PASI75/90/100: $\geq 75/90/100\%$ improvement from baseline in Psoriasis Area and Severity Index; PBO: placebo; PhGA-PsA: Physician's Global Assessment of Psoriatic Arthritis; PsAID-12: 12-item Psoriatic Arthritis Impact of Disease questionnaire; PtGA-PsA: Patient's Global Assessment of Psoriatic Arthritis; Q4W: every 4 weeks; REM: remission; SE: standard error; SF-36 MCS: Short-Form 36-item Health Survey Mental Component Summary; SF-36 PCS: Short-Form 36-item Health Survey Physical Component Summary; SJC: swollen joint count; TJC: tender joint count; TNFi-IR: prior inadequate response or intolerance to tumour necrosis factor inhibitors; VAS: visual analogue scale; VLDA: very low disease activity; WCI: worst-category imputation.

Supplementary Figure 1. PsAID-12 total score PASS responders (score ≤ 4) at baseline, Week 16 and Week 52 (BE OPTIMAL) or Week 40 (BE COMPLETE) in participants with baseline plaque-type psoriasis ($\geq 3\%$ BSA) or baseline nail involvement (mNAPSI >0 ; NRI)

(A) In participants with baseline plaque-type psoriasis ($\geq 3\%$ BSA)

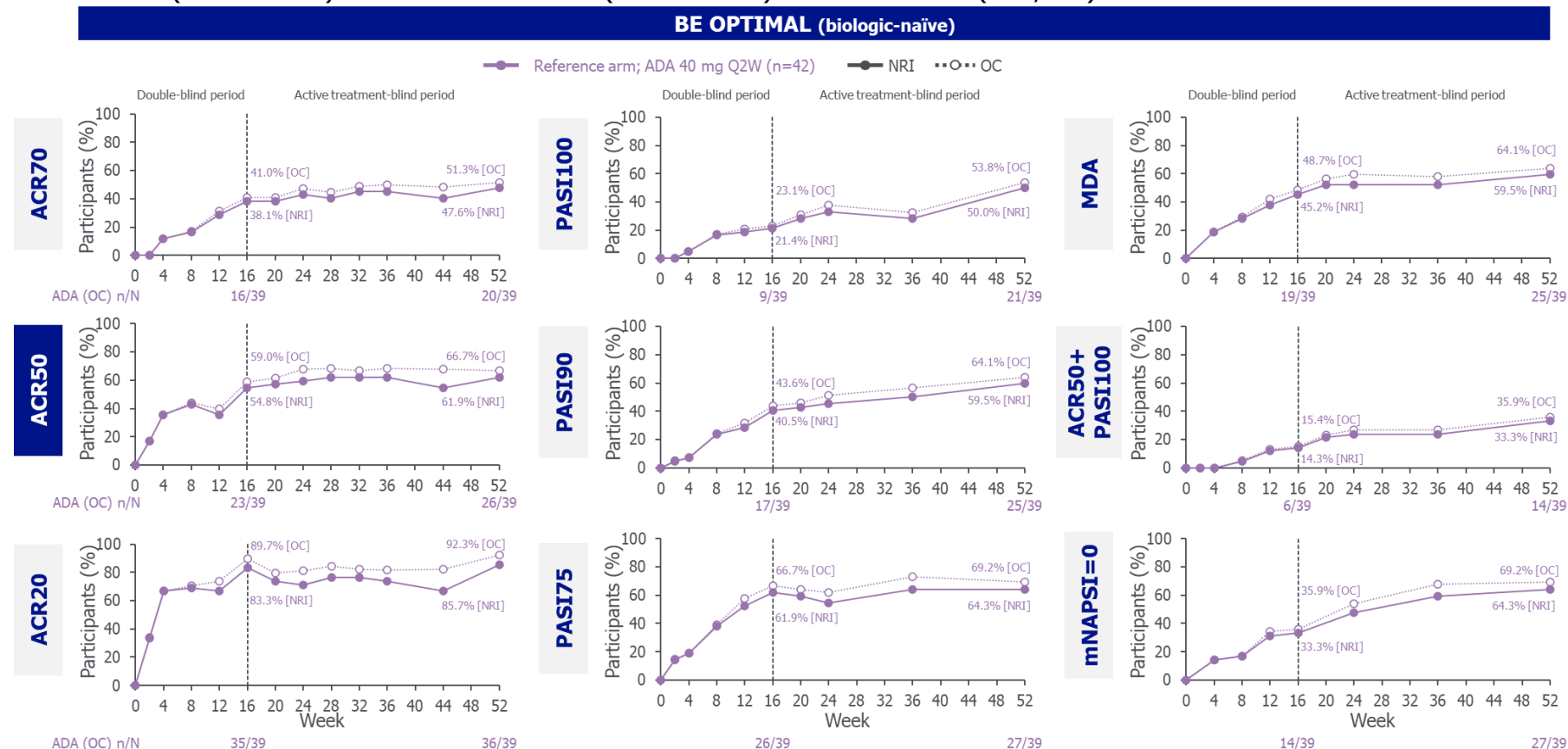


(B) In participants with baseline nail involvement (mNAPSI >0)



Randomised set. In participants with plaque-type psoriasis ($\geq 3\%$ BSA) or nail involvement (mNAPSI >0) at baseline. Biologic-naïve refers to participants naïve to biologic disease-modifying antirheumatic drugs. PASS defined as score of PsAID-12 ≤ 4 [1]. BKZ: bimekizumab; BSA: body surface area; mNAPSI: modified Nail Psoriasis Severity Index; NRI: non-responder imputation; PASS: patient-acceptable symptom state; PBO: placebo; PsAID-12: 12-item Psoriatic Arthritis Impact of Disease questionnaire; Q4W: every 4 weeks; TNFi-IR: prior inadequate response or intolerance to tumour necrosis factor inhibitors.

Supplementary Figure 2. Efficacy outcomes to Week 52 in participants with baseline plaque-type psoriasis ($\geq 3\%$ BSA) and nail involvement (mNAPSI >0) in the reference arm (adalimumab) of BE OPTIMAL (NRI, OC)



Randomised set. Only data from BE OPTIMAL (biologic-naïve) shown. In participants with plaque-type psoriasis ($\geq 3\%$ BSA), nail involvement (mNAPSI >0) or plaque-type psoriasis and nail involvement at baseline. Biologic-naïve refers to participants naïve to biologic disease-modifying antirheumatic drugs. ACR50 at Week 16 was the primary endpoint of BE OPTIMAL and BE COMPLETE. ACR20/50/70: $\geq 20/50/70\%$ improvement from baseline in American College of Rheumatology response criteria; ADA: adalimumab; BSA: body surface area; MDA: Minimal Disease Activity; mNAPSI: modified Nail Psoriasis Severity Index; NRI: non-responder imputation; OC: observed

case; PASI75/90/100: $\geq 75/90/100\%$ improvement from baseline in Psoriasis Area and Severity Index; Q2W: every 2 weeks; TNFi-IR: prior inadequate response or intolerance to tumour necrosis factor inhibitors.

Supplementary Table 7. Additional efficacy outcomes at Week 52 in participants with baseline plaque-type psoriasis ($\geq 3\%$ BSA), baseline nail involvement (mNAPSI >0) or baseline skin and nail involvement in the reference arm (adalimumab) of BE OPTIMAL (NRI, MI, WCI)

	BE OPTIMAL (biologic-naïve)		
	ADA 40 mg Q2W		
	$\geq 3\%$ BSA n=68	mNAPSI >0 n=75	$\geq 3\%$ BSA and mNAPSI >0 n=42
ACR20 response, n (%)	56 (82.4)	60 (80.0)	36 (85.7)
ACR50 response, n (%)	40 (58.8)	43 (57.3)	26 (61.9)
ACR70 response, n (%)	31 (45.6)	31 (41.3)	20 (47.6)
PASI75 response, ^a n/N (%)	45/68 (66.2)	27/42 (64.3)	27/42 (64.3)
PASI90 response, ^a n/N (%)	41/68 (60.3)	25/42 (59.5)	25/42 (59.5)
PASI100 response, ^a n/N (%)	33/68 (48.5)	21/42 (50.0)	21/42 (50.0)
PASI $\leq 1^a$ or BSA $\leq 3\%$, n (%)	49 (72.1)	64 (85.3)	31 (73.8)
MDA response, n (%)	38 (55.9)	44 (58.7)	25 (59.5)
VLDA response, n (%)	19 (27.9)	22 (29.3)	12 (28.6)
ACR50+PASI100 response, ^a n/N (%)	24/68 (35.3)	14/42 (33.3)	14/42 (33.3)
mNAPSI=0, ^b n/N (%)	27/42 (64.3)	45/75 (60.0)	27/42 (64.3)
SJC=0 (of 66 joints), n (%)	47 (69.1)	49 (65.3)	31 (73.8)
TJC=0 (of 68 joints), n (%)	27 (39.7)	31 (41.3)	18 (42.9)
DAPSA disease state [WCI], ^c n (%)			
LDA+REM	45 (66.2)	54 (72.0)	31 (73.8)
REM	29 (42.6)	29 (38.7)	20 (47.6)
Complete resolution of enthesitis (LEI), ^d n/N (%)	7/15 (46.7)	9/17 (52.9)	4/10 (40.0)
PhGA-PsA score CfB [MI], mean (SE)	-47.7 (2.9)	-45.1 (2.9)	-48.3 (4.0)
PtGA-PsA score CfB [MI], mean (SE)	-39.3 (3.2)	-31.9 (3.3)	-38.3 (4.0)
Pain VAS CfB [MI], ^e mean (SE)	-37.1 (3.7)	-31.0 (3.6)	-37.1 (4.8)
Pain VAS $\geq 50\%$ improvement, ^{e,f} n (%)	40 (58.8)	41 (54.7)	25 (59.5)
Pain VAS ≤ 15 , ^e n (%)	33 (48.5)	39 (52.0)	23 (54.8)
HAQ-DI score CfB [MI], mean (SE)	-0.52 (0.08)	-0.45 (0.07)	-0.55 (0.11)
HAQ-DI normative state, ^g n (%)	45 (66.2)	47 (62.7)	27 (64.3)
HAQ-DI MCID, ^h n/N (%)	37/57 (64.9)	42/64 (65.6)	25/37 (67.6)
FACIT-Fatigue score CfB [MI], mean (SE)	6.9 (1.1)	5.6 (1.0)	6.4 (1.4)
FACIT-Fatigue MCID, ⁱ n/N (%)	32/65 (49.2)	34/69 (49.3)	20/39 (51.3)
SF-36 PCS score CfB [MI], mean (SE)	11.2 (1.3)	9.9 (1.2)	11.8 (1.7)
SF-36 MCS score CfB, [MI], mean (SE)	1.0 (1.1)	0.8 (0.8)	2.5 (1.1)
PsAID-12 total score CfB [MI], ^j mean (SE)	-3.1 (0.3)	-2.6 (0.2)	-3.1 (0.3)

BASDAI total score Cfb [MI], ^k mean (SE)	–3.8 (0.3)	–3.2 (0.3)	–3.7 (0.4)
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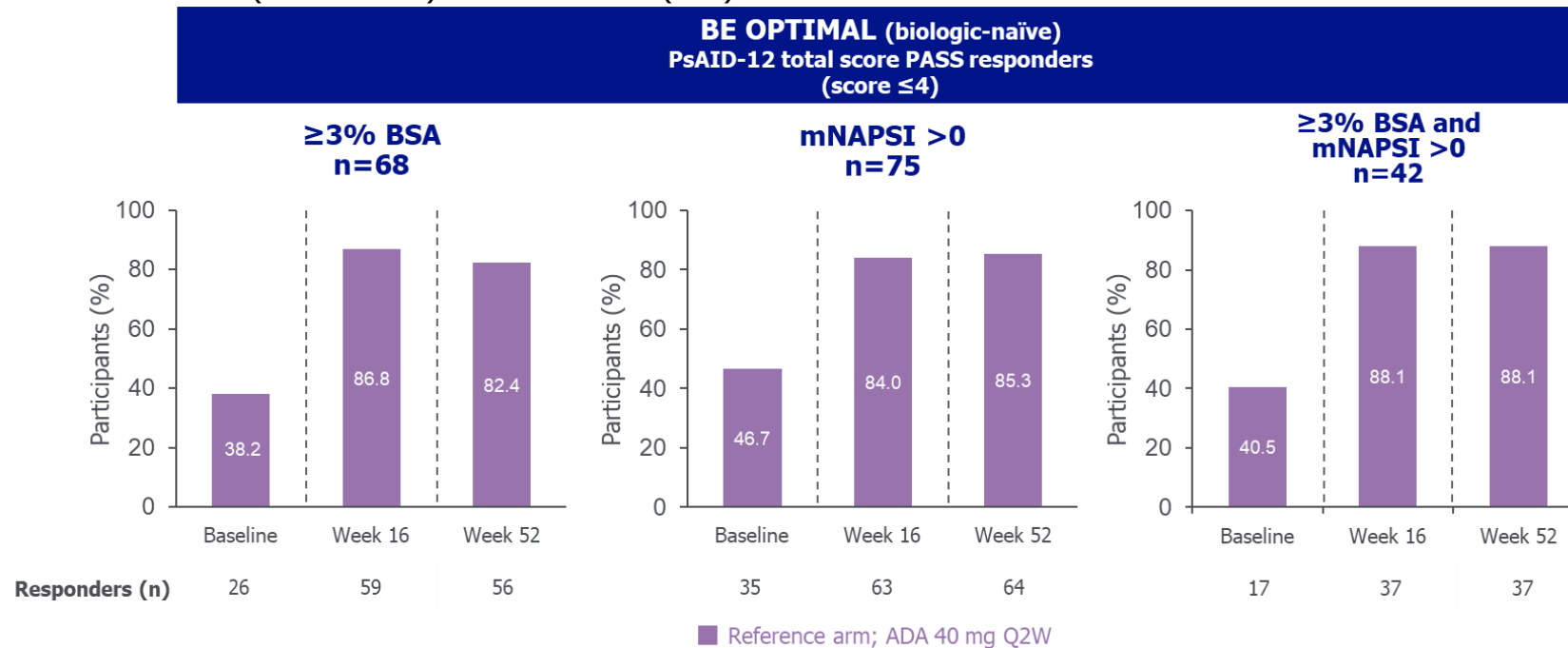
Randomised set. NRI unless otherwise stated. Only data from BE OPTIMAL (biologic-naïve) shown. In participants with plaque-type psoriasis ($\geq 3\%$ BSA), nail involvement (mNAPSI > 0) or plaque-type psoriasis and nail involvement at baseline. Biologic-naïve refers to participants naïve to biologic disease-modifying antirheumatic drugs. [a] In participants with plaque-type psoriasis affecting $\geq 3\%$ BSA at baseline; [b] In participants with nail involvement at baseline (mNAPSI > 0); [c] Missing data were imputed using worst-category imputation. DAPSA REM defined as a DAPSA score of ≤ 4 , LDA+REM defined as a DAPSA score of ≤ 14 ; [d] In participants with enthesitis at baseline defined by LEI > 0 ; [e] Pain VAS assessed using the Patient's Assessment of Arthritis Pain VAS which ranges from 0–100, 0 representing 'no pain' and 100 'most severe pain'; [f] Pain VAS $\geq 50\%$ represents a substantial improvement in participant-reported pain [2]; [g] HAQ-DI ≤ 0.5 [3]; [h] HAQ-DI MCID defined as decrease from baseline ≥ 0.35 in participants with HAQ-DI ≥ 0.35 at baseline; [i] FACIT-Fatigue MCID defined as score increase from baseline ≥ 4 in participants with FACIT-Fatigue ≤ 48 at baseline; [j] PsAID-12 scores range from 0–10; higher scores indicate worse status [1]; [k] Assessed in participants with BASDAI ≥ 4 at baseline; $\geq 3\%$ BSA: n=55; mNAPSI > 0 : n=56; $\geq 3\%$ BSA and mNAPSI > 0 : n=35. ACR20/50/70: $\geq 20/50/70\%$ improvement from baseline in American College of Rheumatology response criteria; ADA: adalimumab; BASDAI: Bath Ankylosing Spondylitis Disease Activity Index; BSA: body surface area; Cfb: change from baseline; DAPSA: Disease Activity Index for Psoriatic Arthritis; FACIT-Fatigue: Functional Assessment of Chronic Illness Therapy-Fatigue; HAQ-DI: Health Assessment Questionnaire-Disability Index; LDA: low disease activity; LEI: Leeds Enthesitis Index; MCID: minimal clinically important difference; MDA: Minimal Disease Activity; MI: multiple imputation; mNAPSI: modified Nail Psoriasis Severity Index; NRI: non-responder imputation; PASI75/90/100: $\geq 75/90/100\%$ improvement from baseline in Psoriasis Area and Severity Index; PBO: placebo; PhGA-PsA: Physician's Global Assessment of Psoriatic Arthritis; PsAID-12: 12-item Psoriatic Arthritis Impact of Disease questionnaire; PtGA-PsA: Patient's Global Assessment of Psoriatic Arthritis; Q4W: every 4 weeks; REM: remission; SE: standard error; SF-36 MCS: Short-Form 36-item Health Survey Mental Component Summary; SF-36 PCS: Short-Form 36-item Health Survey Physical Component Summary; SJC: swollen joint count; TJC: tender joint count; TNFi-IR: prior inadequate response or intolerance to tumour necrosis factor inhibitors; VAS: visual analogue scale; VLDA: very low disease activity; WCI: worst-category imputation.

Supplementary Table 8. PsAID-12 single-item domain mean scores at baseline, Week 16 and Week 52 in participants with baseline plaque-type psoriasis ($\geq 3\%$ BSA), baseline nail involvement (mNAPSI >0) or baseline skin and nail involvement in the reference arm (adalimumab) of BE OPTIMAL (MI)

Mean (SE)	BE OPTIMAL (biologic-naïve)								
	ADA 40 mg Q2W								
	$\geq 3\%$ BSA n=68			mNAPSI >0 n=75			$\geq 3\%$ BSA and mNAPSI >0 n=42		
	BL	Wk 16	Wk 52	BL	Wk 16	Wk 52	BL	Wk 16	Wk 52
Pain	6.0 (0.3)	2.8 (0.3)	2.3 (0.3)	5.6 (0.2)	3.1 (0.3)	2.5 (0.3)	5.9 (0.3)	2.6 (0.3)	2.2 (0.3)
Fatigue	5.4 (0.3)	2.4 (0.3)	2.3 (0.3)	5.2 (0.3)	2.7 (0.3)	2.6 (0.3)	5.5 (0.3)	2.3 (0.3)	2.4 (0.4)
Skin problems	5.9 (0.3)	2.1 (0.2)	1.6 (0.3)	4.5 (0.3)	1.8 (0.2)	1.3 (0.2)	5.6 (0.3)	1.8 (0.2)	1.3 (0.2)
Work and/or leisure activities	5.2 (0.3)	2.0 (0.2)	1.7 (0.2)	5.1 (0.3)	2.3 (0.2)	1.8 (0.2)	5.3 (0.4)	2.1 (0.3)	1.7 (0.3)
Functional capacity	5.4 (0.3)	2.0 (0.2)	1.8 (0.2)	5.3 (0.3)	2.4 (0.2)	2.0 (0.2)	5.4 (0.3)	2.0 (0.3)	1.9 (0.3)
Discomfort	4.9 (0.3)	1.9 (0.3)	1.5 (0.3)	4.7 (0.3)	2.0 (0.2)	1.5 (0.2)	4.7 (0.4)	1.6 (0.3)	1.5 (0.3)
Sleep disturbance	4.0 (0.3)	1.5 (0.3)	1.3 (0.2)	3.9 (0.3)	1.7 (0.3)	1.7 (0.3)	4.0 (0.4)	1.5 (0.3)	1.4 (0.3)
Coping	4.3 (0.3)	1.4 (0.2)	1.4 (0.2)	3.8 (0.2)	1.6 (0.2)	1.5 (0.2)	4.2 (0.3)	1.4 (0.2)	1.3 (0.3)
Anxiety, fear and uncertainty	2.5 (0.3)	1.2 (0.2)	1.2 (0.3)	2.3 (0.3)	0.9 (0.2)	1.1 (0.2)	2.2 (0.3)	0.7 (0.2)	1.0 (0.2)
Embarrassment and/or shame	3.4 (0.3)	0.9 (0.2)	0.7 (0.1)	2.5 (0.3)	0.8 (0.2)	0.8 (0.2)	3.0 (0.4)	0.7 (0.1)	0.7 (0.2)
Social Participation	2.9 (0.3)	1.0 (0.2)	0.8 (0.2)	2.4 (0.3)	1.1 (0.2)	0.9 (0.2)	2.7 (0.4)	1.0 (0.2)	0.8 (0.2)
Depression	1.4 (0.3)	0.7 (0.2)	0.4 (0.2)	1.1 (0.2)	0.6 (0.2)	0.5 (0.1)	1.4 (0.3)	0.5 (0.2)	0.4 (0.2)

Randomised set. Only data from BE OPTIMAL (biologic-naïve) shown. In participants with plaque-type psoriasis ($\geq 3\%$ BSA), nail involvement (mNAPSI >0) or plaque-type psoriasis and nail involvement at baseline. Biologic-naïve refers to participants naïve to biologic disease-modifying antirheumatic drugs. PsAID-12 scores range from 0–10; higher scores indicate worse status [1]. ADA: adalimumab; BL: baseline; BSA: body surface area; MI: multiple imputation; mNAPSI: modified Nail Psoriasis Severity Index; PsAID-12: 12-item Psoriatic Arthritis Impact of Disease questionnaire; Q2W: every 2 weeks; SE: standard error; Wk: week.

Supplementary Figure 3. PsAID-12 total score PASS responders (score ≤ 4) at baseline, Week 16 and Week 52 in participants with baseline plaque-type psoriasis ($\geq 3\%$ BSA), baseline nail involvement (mNAPSI > 0) or baseline skin and nail involvement in the reference arm (adalimumab) of BE OPTIMAL (NRI)



Randomised set. In participants with plaque-type psoriasis ($\geq 3\%$ BSA) or nail involvement (mNAPSI > 0) at baseline. Biologic-naïve refers to participants naïve to biologic disease-modifying antirheumatic drugs. PASS defined as score of PsAID-12 ≤ 4 [1]. ADA: adalimumab; BSA: body surface area; mNAPSI: modified Nail Psoriasis Severity Index; NRI: non-responder imputation; PASS: patient-acceptable symptom state; PsAID-12: 12-item Psoriatic Arthritis Impact of Disease questionnaire; Q2W: every 2 weeks.

Supplementary Table 9. Safety outcomes to Week 52 in participants with baseline plaque-type psoriasis ($\geq 3\%$ BSA) or baseline nail involvement (mNAPSI >0)

n (%) [EAIR/100 PY]	BE OPTIMAL (biologic-naïve)		BE COMPLETE (TNFi-IR)	
	BKZ 160 mg Q4W Total ^a		BKZ 160 mg Q4W Total ^a	
	$\geq 3\%$ BSA n=356 PYs: 307.7	mNAPSI >0 n=396 PYs: 345.0	$\geq 3\%$ BSA n=255 PYs: 223.9	mNAPSI >0 n=237 PYs: 208.5
Any TEAE	267 (75.0) [186.5]	308 (77.8) [209.6]	142 (55.7) [102.3]	149 (62.9) [119.3]
Serious TEAEs	18 (5.1) [6.0]	24 (6.1) [7.2]	15 (5.9) [6.9]	16 (6.8) [7.9]
Study discontinuation due to TEAEs	10 (2.8) [3.3]	11 (2.8) [3.2]	9 (3.5) [4.1]	9 (3.8) [4.4]
Drug-related TEAEs	90 (25.3) [35.5]	132 (33.3) [50.1]	51 (20.0) [26.4]	52 (21.9) [29.2]
Severe TEAEs	12 (3.4) [4.0]	14 (3.5) [4.1]	12 (4.7) [5.5]	12 (5.1) [5.9]
Deaths ^b	1 (0.3) [0.3]	1 (0.3) [0.3]	1 (0.4) [0.5]	1 (0.4) [0.5]
Most frequent adverse events ^c				
Nasopharyngitis	44 (12.4) [15.8]	43 (10.9) [13.5]	14 (5.5) [6.5]	8 (3.4) [3.9]
Headache	19 (5.3) [6.4]	13 (3.3) [3.9]	7 (2.7) [3.2]	8 (3.4) [3.9]
Upper respiratory tract infection	18 (5.1) [6.1]	32 (8.1) [9.8]	6 (2.4) [2.7]	9 (3.8) [4.4]
Urinary tract infection	17 (4.8) [5.6]	25 (6.3) [7.5]	17 (6.7) [7.9]	14 (5.9) [7.0]
Oral candidiasis ^d	16 (4.5) [5.3]	23 (5.8) [6.8]	6 (2.4) [2.7]	15 (6.3) [7.5]
Arthralgia	15 (4.2) [5.0]	19 (4.8) [5.6]	2 (0.8) [0.9]	2 (0.8) [1.0]
SARS-CoV-2 (COVID-19) infection ^d	11 (3.1) [3.6]	6 (1.5) [1.8]	20 (7.8) [9.2]	20 (8.4) [9.9]
Adjudicated MACE	1 (0.3) [0.3]	1 (0.3) [0.3]	2 (0.8) [0.9]	2 (0.8) [1.0]
Neutropenia	7 (2.0) [2.3] ^e	9 (2.3) [2.6] ^f	5 (2.0) [2.3] ^e	2 (0.8) [1.0] ^f
Infections				
Serious	2 (0.6) [0.7]	1 (0.3) [0.3]	5 (2.0) [2.3]	4 (1.7) [1.9]
Opportunistic	5 (1.4) [1.6]	6 (1.5) [1.8]	1 (0.4) [0.5]	1 (0.4) [0.5]
Active TB	0	0	0	0
Hypersensitivity	24 (6.7) [8.1]	37 (9.3) [11.4]	6 (2.4) [2.7]	10 (4.2) [4.9]
Dermatitis and eczema	11 (3.1) [3.6]	18 (4.5) [5.4]	2 (0.8) [0.9]	2 (0.8) [1.0]
Serious hypersensitivity	0	0	0	0
Injection site reactions	5 (1.4) [1.6]	6 (1.5) [1.8]	3 (1.2) [1.4]	3 (1.3) [1.5]
Adjudicated suicidal ideation and behaviour	0	0	0	0
Malignancies excluding non-melanoma skin cancer	0	1 (0.3) [0.3]	2 (0.8) [0.9]	2 (0.8) [1.0]

n (%) [EAIR/100 PY]	BE OPTIMAL (biologic-naïve)		BE COMPLETE (TNFi-IR)	
	BKZ 160 mg Q4W Total ^a		BKZ 160 mg Q4W Total ^a	
	≥3% BSA n=356 PYs: 307.7	mNAPSI >0 n=396 PYs: 345.0	≥3% BSA n=255 PYs: 223.9	mNAPSI >0 n=237 PYs: 208.5
Liver function test changes/enzyme elevations, n/n (%)				
ALT >3 × ULN	9/356 (2.5)	12/396 (3.0)	4/255 (1.6)	3/237 (1.3)
AST or ALT >3 × ULN	14/356 (3.9)	18/396 (4.5)	8/255 (3.1)	5/237 (2.1)
Adjudicated definite or probable IBD	1 (0.3) [0.3]	3 (0.8) [0.9] ^g	0	0
Fungal infections	35 (9.8) [12.1]	48 (12.1) [15.0]	16 (6.3) [7.5]	22 (9.3) [11.2]
<i>Candida</i> infections	24 (6.7) [8.1]	32 (8.1) [9.7]	7 (2.7) [3.2]	15 (6.3) [7.5]
Oral candidiasis	16 (4.5) [5.3]	23 (5.8) [6.8]	6 (2.4) [2.7]	15 (6.3) [7.5]
Vulvovaginal candidiasis	5 (1.4) [1.6]	4 (1.0) [1.2]	0	0
Oesophageal candidiasis	2 (0.6) [0.7]	2 (0.5) [0.6]	2 (0.8) [0.9]	1 (0.4) [0.5]
Oropharyngeal candidiasis	1 (0.3) [0.3]	2 (0.5) [0.6]	0	0
Skin <i>Candida</i>	0	1 (0.3) [0.3]	0	0
Fungal infections NEC	13 (3.7) [4.3]	16 (4.0) [4.8]	8 (3.1) [3.7]	5 (2.1) [2.4]
Fungal skin infection	5 (1.4) [1.6]	5 (1.3) [1.5]	4 (1.6) [1.8]	3 (1.3) [1.5]
Oral fungal infection	5 (1.4) [1.6]	7 (1.8) [2.1]	1 (0.4) [0.5]	1 (0.4) [0.5]
Tongue fungal infection	3 (0.8) [1.0]	3 (0.8) [0.9]	1 (0.4) [0.5]	1 (0.4) [0.5]
Fungal oesophagitis	1 (0.3) [0.3]	1 (0.3) [0.3]	0	0
Laryngitis fungal	1 (0.3) [0.3]	1 (0.3) [0.3]	0	0
Vulvovaginal mycotic infection	0	2 (0.5) [0.6]	2 (0.8) [0.9]	0

Safety set. In participants with plaque-type psoriasis (≥3% BSA) or nail involvement (mNAPSI >0) at baseline. Biologic-naïve refers to participants naïve to biologic disease-modifying antirheumatic drugs. [a] Includes both BKZ-randomised and PBO/BKZ switcher participants (for both BE OPTIMAL and BE COMPLETE); includes events whilst receiving BKZ only (after switch for PBO/BKZ participants); [b] BE OPTIMAL: One death due to traumatic shock (motorcycle accident); unrelated to treatment. BE COMPLETE: One sudden death in 54-year old participant with a history of hypertension, aortic dilatation, aortic regurgitation and electrocardiogram suggestive of previous cardiac ischemic event; unrelated to treatment, no further information available as no autopsy was performed; [c] Most frequent adverse events are those occurring in ≥5% of BKZ-treated participants in BE OPTIMAL or BE COMPLETE across any of the plaque-type psoriasis, nail involvement or combined subgroups; [d] All infections were mild or moderate, none were severe; [e] BE OPTIMAL: six neutropenia, one neutrophil count decreased; BE COMPLETE: four neutropenia, one neutrophil count decreased; [f] BE OPTIMAL: eight neutropenia, one neutrophil count decreased; BE COMPLETE: two neutropenia; [g] One participant with a history of IBD. ALT: alanine aminotransferase; AST: aspartate aminotransferase; BKZ: bimekizumab; BSA: body surface area; EAIR: exposure-adjusted incidence rate; IBD: inflammatory bowel disease; MACE: major adverse cardiovascular event; mNAPSI: modified Nail Psoriasis Severity Index; NEC: not elsewhere classified; PBO: placebo; PYs: patient-years; Q4W: every four weeks; TB: tuberculosis; TEAE: treatment-emergent adverse event; TNFi-IR: prior inadequate response or intolerance to tumour necrosis factor inhibitors; ULN: upper limit of normal.

Supplementary Table 10. Safety outcomes at Week 52 in participants with baseline plaque-type psoriasis ($\geq 3\%$ BSA), baseline nail involvement (mNAPSI >0) or baseline skin and nail involvement in the reference arm (adalimumab) of BE OPTIMAL

n (%) [EAIR/100 PY]	BE OPTIMAL (biologic-naïve)		
	ADA 40 mg Q2W		
	$\geq 3\%$ BSA n=68 PYs: 66.9	mNAPSI >0 n=75 PYs: 73.8	$\geq 3\%$ BSA and mNAPSI >0 n=42 PYs: 40.9
Any TEAE	55 (80.9) [203.2]	60 (80.0) [191.5]	33 (78.6) [201.6]
Serious TEAEs	4 (5.9) [6.1]	4 (5.3) [5.5]	3 (7.1) [7.6]
Study discontinuation due to TEAE	4 (5.9) [6.1]	4 (5.3) [5.5]	3 (7.1) [7.5]
Drug-related TEAEs	25 (36.8) [48.1]	24 (32.0) [41.8]	14 (33.3) [43.8]
Severe TEAEs	5 (7.4) [7.7]	5 (6.7) [7.0]	4 (9.5) [10.3]
Deaths	0	0	0
Most frequent adverse events ^a			
Nasopharyngitis	8 (11.8) [13.1]	5 (6.7) [7.1]	4 (9.5) [10.6]
SARS-CoV-2 (COVID-19) infection ^b	3 (4.4) [4.5]	1 (1.3) [1.4]	1 (2.4) [2.5]
Headache	2 (2.9) [3.1]	2 (2.7) [2.8]	2 (4.8) [5.1]
Arthralgia	2 (2.9) [3.0]	2 (2.7) [2.7]	1 (2.4) [2.5]
Upper respiratory tract infection	1 (1.5) [1.5]	4 (5.3) [5.6]	1 (2.4) [2.5]
Urinary tract infection	1 (1.5) [1.5]	3 (4.0) [4.1]	0
Oral candidiasis	0	0	0
Adjudicated MACE	0	0	0
Neutropenia ^c	1 (1.5) [1.5]	1 (1.3) [1.4]	1 (2.4) [2.5]
Infections			
Serious	0	0	0
Opportunistic	0	0	0
Active TB	0	0	0
Hypersensitivity	2 (2.9) [3.1]	4 (5.3) [5.6]	1 (2.4) [2.5]
Dermatitis and eczema	0	2 (2.7) [2.8]	0
Serious hypersensitivity	0	0	0
Injection site reactions	5 (7.4) [7.8]	4 (5.3) [5.6]	3 (7.1) [7.7]
Adjudicated suicidal ideation and behaviour	0	0	0
Malignancies excluding non-melanoma skin cancer	0	0	0
Liver function test changes/enzyme elevations, n/n (%)			
ALT $>3 \times$ ULN	6/68 (8.8)	2/75 (2.7)	2/42 (4.8)
AST or ALT $>3 \times$ ULN	7/68 (10.3)	4/75 (5.3)	3/42 (7.1)
Adjudicated definite or probable IBD	0	0	0
Fungal infections	0	0	0
<i>Candida</i> infections	0	0	0
Fungal infections NEC	13 (3.7) [4.3]	0	0
Fungal skin infection	5 (1.4) [1.6]	0	0
Oral fungal infection	5 (1.4) [1.6]	0	0
Tongue fungal infection	3 (0.8) [1.0]	0	0
Fungal oesophagitis	1 (0.3) [0.3]	0	0
Laryngitis fungal	1 (0.3) [0.3]	0	0

Safety set. Only data from BE OPTIMAL (biologic-naïve) shown. In participants with plaque-type psoriasis ($\geq 3\%$ BSA), nail involvement (mNAPSI >0) or plaque-type psoriasis and nail involvement at

baseline. Biologic-naïve refers to participants naïve to biologic disease-modifying antirheumatic drugs. [a] Most frequent adverse events reported here for reference arm in BE OPTIMAL, are those occurring in $\geq 5\%$ of BKZ-treated participants in BE OPTIMAL or BE COMPLETE across any of the plaque-type psoriasis, nail involvement or combined subgroups; [b] All COVID-19 infections were mild or moderate, none were severe; [c] $\geq 3\%$ BSA: one neutropenia; mNAPSI >0 : one neutropenia; $\geq 3\%$ BSA and mNAPSI >0 : one neutropenia. ADA: adalimumab; ALT: alanine aminotransferase; AST: aspartate aminotransferase; BKZ: bimekizumab; BSA: body surface area; EAIR: exposure-adjusted incidence rate; IBD: inflammatory bowel disease; MACE: major adverse cardiovascular event; mNAPSI: modified Nail Psoriasis Severity Index; NEC: not elsewhere classified; PYs: patient-years; Q2W: every 2 weeks; TB: tuberculosis; TEAE: treatment-emergent adverse event; ULN: upper limit of normal.

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