Comparative Effectiveness of Bimekizumab and Secukinumab in Patients with Psoriatic Arthritis at 52-Weeks Using a Matching-Adjusted Indirect Comparison

Supplementary Materials

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Table S1. Base case analysis – Unadjusted and adjusted response rates for bimekizumab (BE OPTIMAL) vs secukinumab (FUTURE 2) at Week 52 (bDMARD-naïve patient subgroup)

BKZ 160 mg Q4W	ACR20	ACR50	ACR70	MDA
vs. SEC 150 mg Q4W				
SEC response rate – % (95% CI) (N=63)	79.37 (69.17, 89.56)	49.21 (36.62, 61.80)	23.81 (13.08, 34.54)	36.52 (24.40, 48.65)
BKZ unadjusted response rate - % (95% CI) (N=431)	71.23 (66.94, 75.52)	54.52 (49.81, 59.24)	39.21 (34.59, 43.83)	54.99 (50.28, 59.70)
Unadjusted OR (95% CI)	0.64 (0.34, 1.23)	1.24 (0.73, 2.11)	2.06 (1.12, 3.81)	2.12 (1.23, 3.68)
BKZ ESS	236.15	236.15	236.15	236.15
BKZ adjusted response rate - % (95% CI)	71.07 (66.01, 76.12)	53.75 (48.19, 59.31)	42.76 (37.24, 48.27)	50.49 (44.92, 56.06)
Adjusted OR (95% CI)	0.64 (0.32, 1.26)	1.20 (0.69, 2.10)	**2.39 (1.26, 4.53)**	1.77 (1.00, 3.15)
p-value	0.193	0.522	**0.008**	0.051
vs. SEC 300 mg Q4W				
SEC response rate – %(95%CI) (N=67)	68.66 (57.34, 79.97)	52.24 (40.06, 64.42)	26.87 (16.05, 37.68)	40.03 (27.89, 52.17)
BKZ unadjusted response rate - % (95% CI) (N=431)	71.23 (66.94, 75.52)	54.52 (49.81, 59.24)	39.21 (34.59, 43.83)	54.99 (50.28, 59.70)
Unadjusted OR (95% CI)	1.13 (0.65, 1.98)	1.10 (0.65, 1.84)	1.76 (0.99, 3.12)	1.83 (1.07, 3.12)
BKZ ESS	236.15	236.15	236.15	236.15
BKZ adjusted response rate – %(95% CI)	71.07 (66.01, 76.12)	53.75 (48.19, 59.31)	42.76 (37.24, 48.27)	50.49 (44.92, 56.06)
Adjusted OR (95% CI)	1.12 (0.62, 2.03)	1.06 (0.62, 1.83)	**2.03 (1.11, 3.72)**	1.53 (0.87, 2.68)
p-value	0.704	0.827	**0.021**	0.138

Trial populations adjusted for: age, sex, BSA≥3%, HAQ-DI, MTX, SJC, TJC.
ACR, American College of Rheumatology; ACR20/50/70, at least a 20/50/70% improvement according to the ACR response criteria; bDMARD, biologic disease modifying anti-rheumatic drug; BKZ, bimekizumab; BSA, body surface area; CI, confidence interval; ESS, effective sample size; HAQ-DI, Health Assessment Questionnaire Disability Index; MDA, minimal disease activity; MTX, methotrexate; OR, odds ratio; Q4W, every 4 weeks; SEC, secukinumab; SJC, swollen join count; TJC, tender joint count.

Table S2. Base case analysis – Unadjusted and adjusted response rates for bimekizumab (BE COMPLETE) vs secukinumab (FUTURE 2) at Week 52 (TNFi-IR patient subgroup)

BKZ 160 mg Q4W	ACR20	ACR50	ACR70	MDA
vs. SEC 150 mg Q4W				
SEC response rate – % (95% CI) (N=37)	37.84 (21.67, 54.01)	21.62 (7.90, 35.35)	13.51 (2.12, 24.91)	16.22 (3.93, 28.51)
BKZ unadjusted response rate - % (95% CI) (N=267)	68.16 (62.55, 73.78)	51.69 (45.66, 57.71)	35.58 (29.81, 41.35)	47.19 (41.18, 53.21)
Unadjusted OR (95% CI)	3.52 (1.72, 7.21)	3.88 (1.70 ,8.84)	3.53 (1.32, 9.44)	4.62 (1.85, 11.50)
BKZ ESS	145.50	145.50	145.50	145.50
BKZ adjusted response rate - % (95% CI)	68.07 (61.53, 74.60)	47.82 (40.82, 54.82)	31.58 (25.06, 38.09)	40.54 (33.66, 47.43)
Adjusted OR (95% CI)	**3.50 (1.64, 7.49)**	**3.32 (1.41, 7.80)**	**2.95 (1.08, 8.07)**	**3.52 (1.38, 8.99)**
p-value	**0.001**	**0.006**	**0.035**	**0.009**
vs. SEC 300 mg Q4W				
SEC response rate – % (95% CI) (N=33)	54.55 (36.89, 72.20)	27.27 (11.48, 43.06)	18.18 (4.51, 31.86)	18.94 (5.88, 32.00)
BKZ unadjusted response rate - % (95% CI) (N=267)	68.16 (62.55, 73.78)	51.69 (45.66, 57.71)	35.58 (29.81, 41.35)	47.19 (41.18, 53.21)
Unadjusted OR (95% CI)	1.78 (0.85, 3.73)	2.85 (1.27, 6.40)	2.49 (0.98, 6.27)	3.82 (1.61, 9.06)
BKZ ESS	145.50	145.50	145.50	145.50
BKZ adjusted response rate – % (95% CI)	68.07 (61.53, 74.60)	47.82 (40.82, 54.82)	31.58 (25.06, 38.09)	40.54 (33.66, 47.43)
Adjusted OR (95% CI)	1.78 (0.82, 3.87)	**2.44 (1.06, 5.65)**	2.08 (0.80, 5.37)	**2.92 (1.20, 7.09)**
p-value	0.147	**0.037**	0.131	**0.018**

Trial populations adjusted for: age, sex, BSA≥3%, HAQ-DI, MTX, SJC, TJC.
ACR, American College of Rheumatology; ACR20/50/70, at least a 20/50/70% improvement according to the ACR response criteria; BKZ, bimekizumab; BSA, body surface area; CI, confidence interval; ESS, effective sample size; HAQ-DI, Health Assessment Questionnaire Disability Index; MDA, minimal disease activity; MTX, methotrexate; OR, odds ratio; Q4W, every 4 weeks; SEC, secukinumab; SJC, swollen join count; TJC, tender joint count; TNFi-IR, tumour necrosis factor inhibitor-inadequate response or intolerant.

Table S3. Sensitivity analysis – Unadjusted and adjusted response rates for bimekizumab (BE OPTIMAL) vs secukinumab (pooled FUTURE 2 – 5) at Week 52 (bDMARD-naïve patient subgroup)

BKZ 160 mg Q4W	ACR20	ACR50	ACR70	MDA
vs. SEC 150 mg Q4W				
SEC response rate – % (95% CI) (N=643)	67.96 (64.35, 71.58)	44.63 (40.78, 48.48)	NA	NA
BKZ unadjusted response rate - % (95% CI) (N=431)	71.23 (66.94, 75.52)	54.52 (49.81, 59.24)	NA	NA
Unadjusted OR (95% CI)	1.17 (0.89, 1.52)	1.49 (1.16, 1.90)	NA	NA
BKZ ESS	304.81	304.81	NA	NA
BKZ adjusted response rate - % (95% CI)	71.31 (66.62, 76.00)	54.13 (48.96, 59.29)	NA	NA
Adjusted OR (95% CI)	1.17 (0.87, 1.59)	**1.46 (1.11, 1.93)**	NA	NA
p-value	0.305	**0.007**	NA	NA
vs. SEC 300 mg Q4W				
SEC response rate – % (95% CI) (N=316)	69.94 (64.86, 75.01)	48.42 (42.89, 53.95)	NA	NA
BKZ unadjusted response rate - % (95% CI) (N=431)	71.23 (66.94, 75.52)	54.52 (49.81, 59.24)	NA	NA
Unadjusted OR (95% CI)	1.06 (0.77, 1.46)	1.28 (0.95, 1.71)	NA	NA
BKZ ESS	281.93	281.93	NA	NA
BKZ adjusted response rate – % (95% CI)	70.29 (65.45, 75.14)	52.83 (47.54, 58.12)	NA	NA
Adjusted OR (95% CI)	1.02 (0.71, 1.45)	1.19 (0.86, 1.65)	NA	NA
p-value	0.926	0.283	NA	NA

Trial populations adjusted for: age, sex, BSA≥3%, HAQ-DI, MTX, SJC, TJC.
ACR, American College of Rheumatology; ACR20/50/70, at least a 20/50/70% improvement according to the ACR response criteria; bDMARD, biologic disease modifying anti-rheumatic drug; BKZ, bimekizumab; BSA, body surface area; CI, confidence interval; ESS, effective sample size; HAQ-DI, Health Assessment Questionnaire Disability Index; MDA, minimal disease activity; MTX, methotrexate; NA, not assessed; OR, odds ratio; Q4W, every 4 weeks; SEC, secukinumab; SJC, swollen join count; TJC, tender joint count.

Table S4. Sensitivity analysis – Unadjusted and adjusted response rates for bimekizumab (BE COMPLETE) vs secukinumab (pooled FUTURE 2 – 5) at Week 52 (TNFi-IR patient subgroup)

BKZ 160 mg Q4W	ACR20	ACR50	ACR70	MDA
vs. SEC 150 mg Q4W				
SEC response rate – % (95% CI) (N=264)	42.80 (36.81, 48.80)	22.73 (17.65, 27.81)	NA	NA
BKZ unadjusted response rate - % (95% CI) (N=267)	68.16 (62.55, 73.78)	51.69 (45.66, 57.71)	NA	NA
Unadjusted OR (95% CI)	2.86 (2.00, 4.09)	3.64 (2.50, 5.30)	NA	NA
BKZ ESS	116.71	116.71	NA	NA
BKZ adjusted response rate - % (95% CI)	65.34 (58.15, 72.53)	44.42 (36.91, 51.92)	NA	NA
Adjusted OR (95% CI)	**2.52 (1.57, 4.03)**	**2.72 (1.71, 4.32)**	NA	NA
p-value	**<0.001**	**<0.001**	NA	NA
vs. SEC 300 mg Q4W				
SEC response rate – % (95% CI) (N=145)	53.10 (44.91, 61.29)	28.28 (20.88, 35.67)	NA	NA
BKZ unadjusted response rate - % (95% CI) (N=267)	68.16 (62.55, 73.78)	51.69 (45.66, 57.71)	NA	NA
Unadjusted OR (95% CI)	1.89 (1.24, 2.87)	2.71 (1.75, 4.20)	NA	NA
BKZ ESS	141.99	141.99	NA	NA
BKZ adjusted response rate – % (95% CI)	65.74 (59.05, 72.42)	45.99 (38.96, 53.01)	NA	NA
Adjusted OR (95% CI)	**1.69 (1.04, 2.76)**	**2.16 (1.32, 3.53)**	NA	NA
p-value	**0.034**	**0.002**	NA	NA

Trial populations adjusted for: age, sex, BSA≥3%, HAQ-DI, MTX, SJC, TJC.
ACR, American College of Rheumatology; ACR20/50/70, at least a 20/50/70% improvement according to the ACR response criteria; BKZ, bimekizumab; BSA, body surface area; CI, confidence interval; ESS, effective sample size; HAQ-DI, Health Assessment Questionnaire Disability Index; MDA, minimal disease activity; MTX, methotrexate; NA, not assessed; OR, odds ratio; Q4W, every 4 weeks; SEC, secukinumab; SJC, swollen join count; TJC, tender joint count; TNFi-IR, tumour necrosis factor inhibitor-inadequate response or intolerant.