Clinical trial results:
A Phase 3, Multicenter, Randomized, Double-Blind Study With an Active-Controlled Initial Treatment Period Followed by a Dose-Blind Maintenance Treatment Period to Evaluate the Efficacy and Safety of Bimekizumab in Adult Subjects With Moderate to Severe Chronic Plaque Psoriasis

Summary

EudraCT number	2016-003392-22
Trial protocol	DE HU
Global end of trial date	26 February 2020

Results information

Result version number	v1
This version publication date	06 March 2021
First version publication date	06 March 2021

Trial information

Trial identification

Sponsor protocol code	PS0008

Additional study identifiers

ISRCTN number	-
ClinicalTrials.gov id (NCT number)	NCT03412747
WHO universal trial number (UTN)	-

Notes:

Sponsors

Sponsor organisation name	UCB Biopharma SRL
Sponsor organisation address	Allée de la Recherche 60, Brussels, Belgium, 1070
Public contact	Clin Trial Reg & Results Disclosure, UCB BIOSCIENCES GmbH, clinicaltrials@ucb.com
Scientific contact	Clin Trial Reg & Results Disclosure, UCB BIOSCIENCES GmbH, clinicaltrials@ucb.com

Notes:

Paediatric regulatory details

Is trial part of an agreed paediatric investigation plan (PIP)	No
Does article 45 of REGULATION (EC) No 1901/2006 apply to this trial?	No
Does article 46 of REGULATION (EC) No 1901/2006 apply to this trial?	No

Notes:

Results analysis stage

Analysis stage	Final
Date of interim/final analysis	09 April 2020
Is this the analysis of the primary completion data?	No

Global end of trial reached?	Yes
Global end of trial date	26 February 2020
Was the trial ended prematurely?	No

Notes:

General information about the trial

Main objective of the trial:

Compare the efficacy of bimekizumab administered subcutaneously (sc) for 16 weeks versus adalimumab in the treatment of subjects with moderate to severe plaque psoriasis (PSO)

Protection of trial subjects:

During the conduct of the study all participants were closely monitored.

Background therapy:

Background therapy as permitted in the protocol

Evidence for comparator:

Adalimumab is a widely used treatment option for patients with moderate to severe plaque PSO who are candidates for systemic therapy or phototherapy. Adalimumab is a human immunoglobulin (Ig) G1 monoclonal antibody that binds specifically to tumor-necrosis factor (TNF). The efficacy of TNFα inhibitors in treating psoriasis is attributed to their inhibition of Th17-Tcells.

Actual start date of recruitment	26 January 2018
Long term follow-up planned	Yes
Long term follow-up rationale	Safety
Long term follow-up duration	3 Years
Independent data monitoring committee (IDMC) involvement?	Yes

Notes:

Population of trial subjects

Subjects enrolled per country

Country: Number of subjects enrolled	Australia: 21
Country: Number of subjects enrolled	Canada: 77
Country: Number of subjects enrolled	Germany: 50
Country: Number of subjects enrolled	Hungary: 38
Country: Number of subjects enrolled	Poland: 126
Country: Number of subjects enrolled	Russian Federation: 14
Country: Number of subjects enrolled	Korea, Republic of: 5
Country: Number of subjects enrolled	Taiwan: 6
Country: Number of subjects enrolled	United States: 141
Worldwide total number of subjects	478
EEA total number of subjects	214

Notes:

Subjects enrolled per age group	
In utero	0
Preterm newborn - gestational age < 37 wk	0
Newborns (0-27 days)	0
Infants and toddlers (28 days-23 months)	0
Children (2-11 years)	0
Adolescents (12-17 years)	0
Adults (18-64 years)	434
From 65 to 84 years	44
85 years and over	0

Subject disposition

Recruitment

Recruitment details:

The study started to enroll patients in January 2018 and concluded in February 2020.

Pre-assignment

Screening details:

This study included 4 periods: a Screening Period (2 to 5 weeks), an Initial Treatment Period (16 weeks), a Maintenance Treatment Period (40 weeks), and a Safety Follow-Up (SFU) Visit (20 weeks after the final dose of study drug). Participant Flow refers to the Randomized Set.

Period 1

Period 1 title	Initial Treatment Period: Wk0-Wk16
Is this the baseline period?	Yes
Allocation method	Randomised - controlled
Blinding used	Double blind
Roles blinded	Carer, Investigator, Subject, Assessor

Arms

Are arms mutually exclusive?	Yes
Arm title	Bimekizumab Arm 2

Arm description:

Study participants received bimekizumab dose regimen 1 for 16 weeks and proceeded with bimekizumab dose regimen 2 until Week 56. Study participants received placebo at pre-specified time-points to maintain the blinding.

Arm type	Experimental
Investigational medicinal product name	Bimekizumab
Investigational medicinal product code	UCB4940
Other name	BKZ
Pharmaceutical forms	Solution for injection in pre-filled syringe
Routes of administration	Subcutaneous use

Dosage and administration details:

Study participants received bimekizumab at pre-defined timepoints in dose regimen 1 and/or dose regimen 2.

Arm title	Bimekizumab Arm 1

Arm description:

Study participants received bimekizumab dose regimen 1 for 56 weeks. Study participants received placebo at pre-specified time-points to maintain the blinding.

Arm type	Experimental
Investigational medicinal product name	Bimekizumab
Investigational medicinal product code	UCB4940
Other name	BKZ
Pharmaceutical forms	Solution for injection in pre-filled syringe
Routes of administration	Subcutaneous use

Dosage and administration details:

Study participants received bimekizumab at pre-defined timepoints in dose regimen 1 and/or dose regimen 2.

Arm title	Adalimumab Arm

Arm description:

Study participants received adalimumab for 24 weeks and then received bimekizumab dose regimen 1 until Week 56. Study participants received placebo at pre-specified time-points to maintain the blinding.

Arm type	Active comparator

Investigational medicinal product name	Adalimumab
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Solution for injection in pre-filled syringe
Routes of administration	Subcutaneous use

Dosage and administration details:

Adalimumab (ADA) was administered according to the labeling recommendations.

Number of subjects in period 1	Bimekizumab Arm 2	Bimekizumab Arm 1	Adalimumab Arm
Started	161	158	159
Completed	154	153	150
Not completed	7	5	9
Adverse event, serious fatal	-	-	1
Consent withdrawn by subject	4	1	1
Adverse event, non-fatal	2	2	3
Participant moved out of state	1	-	-
Lost to follow-up	-	2	1
Lack of efficacy	-	-	1
Protocol deviation	-	-	2

Period 2

Period 2 title	Maintenance Treatment Period: Wk16-Wk24
Is this the baseline period?	No
Allocation method	Randomised - controlled
Blinding used	Double blind
Roles blinded	Assessor, Carer, Investigator, Subject

Arms

Are arms mutually exclusive?	Yes
Arm title	Bimekizumab Arm 2

Arm description:

Study participants received bimekizumab dose regimen 1 for 16 weeks and proceeded with bimekizumab dose regimen 2 until Week 56. Study participants received placebo at pre-specified time-points to maintain the blinding.

Arm type	Experimental
Investigational medicinal product name	Bimekizumab
Investigational medicinal product code	UCB4940
Other name	BKZ
Pharmaceutical forms	Solution for injection in pre-filled syringe
Routes of administration	Subcutaneous use

Dosage and administration details:

Study participants received bimekizumab at pre-defined timepoints in dose regimen 1 and/or dose regimen 2.

Arm title	Bimekizumab Arm 1
Arm description:	
Study participants received bimekizumab dose regimen 1 for 56 weeks. Study participants received placebo at pre-specified time-points to maintain the blinding.	
Arm type	Experimental
Investigational medicinal product name	Bimekizumab
Investigational medicinal product code	UCB4940
Other name	BKZ
Pharmaceutical forms	Solution for injection in pre-filled syringe
Routes of administration	Subcutaneous use

Arms

Are arms mutually exclusive?	Yes
Arm title	Bimekizumab Arm 2

Arm description:

Study participants received bimekizumab dose regimen 1 for 16 weeks and proceeded with bimekizumab dose regimen 2 until Week 56. Study participants received placebo at pre-specified time-points to maintain the blinding.

Arm type	Experimental
Investigational medicinal product name	Bimekizumab
Investigational medicinal product code	UCB4940
Other name	BKZ
Pharmaceutical forms	Solution for injection in pre-filled syringe
Routes of administration	Subcutaneous use

Dosage and administration details:

Study participants received bimekizumab at pre-defined timepoints in dose regimen 1 and/or dose regimen 2.

Arm title	Bimekizumab Arm 1

Arm description:

Study participants received bimekizumab dose regimen 1 for 56 weeks. Study participants received placebo at pre-specified time-points to maintain the blinding.

Arm type	Experimental
Investigational medicinal product name	Bimekizumab
Investigational medicinal product code	UCB4940
Other name	BKZ
Pharmaceutical forms	Solution for injection in pre-filled syringe
Routes of administration	Subcutaneous use

Dosage and administration details:

Study participants received bimekizumab at pre-defined timepoints in dose regimen 1 and/or dose regimen 2.

Arm title	Adalimumab Arm

Arm description:

Study participants received adalimumab for 24 weeks and then received bimekizumab dose regimen 1 until Week 56. Study participants received placebo at pre-specified time-points to maintain the blinding.

Arm type	Active comparator
Investigational medicinal product name	Adalimumab
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Solution for injection in pre-filled syringe
Routes of administration	Subcutaneous use

Dosage and administration details:

Adalimumab (ADA) was administered according to the labeling recommendations.

Number of subjects in period 3	Bimekizumab Arm 2	Bimekizumab Arm 1	Adalimumab Arm
Started	149	152	149
Completed	143	143	133
Not completed	6	9	16
Consent withdrawn by subject	3	1	4
Adverse event, non-fatal	3	4	6

Moving out of town	-	1	-
Lost to follow-up	-	2	5
Lack of efficacy	-	1	1

Baseline characteristics

Reporting groups	
Reporting group title	Bimekizumab Arm 2
Reporting group description:	
Study participants received bimekizumab dose regimen 1 for 16 weeks and proceeded with bimekizumab dose regimen 2 until Week 56. Study participants received placebo at pre-specified time-points to maintain the blinding.	
Reporting group title	Bimekizumab Arm 1
Reporting group description:	
Study participants received bimekizumab dose regimen 1 for 56 weeks. Study participants received placebo at pre-specified time-points to maintain the blinding.	
Reporting group title	Adalimumab Arm
Reporting group description:	
Study participants received adalimumab for 24 weeks and then received bimekizumab dose regimen 1 until Week 56. Study participants received placebo at pre-specified time-points to maintain the blinding.	

Reporting group values	Bimekizumab Arm 2	Bimekizumab Arm 1	Adalimumab Arm
Number of subjects	161	158	159
Age categorical Units: Subjects			
<=18 years	3	0	2
Between 18 and 65 years	145	147	137
>=65 years	13	11	20
Age continuous Units: years			
arithmetic mean	44.0	45.3	45.5
standard deviation	± 13.5	± 13.2	± 14.3
Gender categorical Units: Subjects			
Female	49	56	45
Male	112	102	114

Reporting group values	Total		
Number of subjects	478		
Age categorical Units: Subjects			
<=18 years	5		
Between 18 and 65 years	429		
>=65 years	44		
Age continuous Units: years			
arithmetic mean			
standard deviation	-		
Gender categorical Units: Subjects			
Female	150		
Male	328		

End points

End points reporting groups

Reporting group title	Bimekizumab Arm 2

Reporting group description:

Study participants received bimekizumab dose regimen 1 for 16 weeks and proceeded with bimekizumab dose regimen 2 until Week 56. Study participants received placebo at pre-specified time-points to maintain the blinding.

Reporting group title	Bimekizumab Arm 1

Reporting group description:

Study participants received bimekizumab dose regimen 1 for 56 weeks. Study participants received placebo at pre-specified time-points to maintain the blinding.

Reporting group title	Adalimumab Arm

Reporting group description:

Study participants received adalimumab for 24 weeks and then received bimekizumab dose regimen 1 until Week 56. Study participants received placebo at pre-specified time-points to maintain the blinding.

Reporting group title	Bimekizumab Arm 2

Reporting group description:

Study participants received bimekizumab dose regimen 1 for 16 weeks and proceeded with bimekizumab dose regimen 2 until Week 56. Study participants received placebo at pre-specified time-points to maintain the blinding.

Reporting group title	Bimekizumab Arm 1

Reporting group description:

Study participants received bimekizumab dose regimen 1 for 56 weeks. Study participants received placebo at pre-specified time-points to maintain the blinding.

Reporting group title	Adalimumab Arm

Reporting group description:

Study participants received adalimumab for 24 weeks and then received bimekizumab dose regimen 1 until Week 56. Study participants received placebo at pre-specified time-points to maintain the blinding.

Reporting group title	Bimekizumab Arm 2

Reporting group description:

Study participants received bimekizumab dose regimen 1 for 16 weeks and proceeded with bimekizumab dose regimen 2 until Week 56. Study participants received placebo at pre-specified time-points to maintain the blinding.

Reporting group title	Bimekizumab Arm 1

Reporting group description:

Study participants received bimekizumab dose regimen 1 for 56 weeks. Study participants received placebo at pre-specified time-points to maintain the blinding.

Reporting group title	Adalimumab Arm

Reporting group description:

Study participants received adalimumab for 24 weeks and then received bimekizumab dose regimen 1 until Week 56. Study participants received placebo at pre-specified time-points to maintain the blinding.

Subject analysis set title	Bimekizumab Arm 1 + Arm 2 (RS)
Subject analysis set type	Full analysis

Subject analysis set description:

This group consisted of participants from both Arm 1 and Arm 2 who received bimekizumab dose regimen 1 for 16 weeks. Participants formed the Randomized Set (RS).

Subject analysis set title	Adalimumab Arm (RS)
Subject analysis set type	Full analysis

Subject analysis set description:

Study participants received adalimumab for 24 weeks and then received bimekizumab dose regimen 1 until Week 56. Study participants received placebo at pre-specified time-points to maintain the blinding. Participants formed the Randomized Set (RS).

Subject analysis set title	Bimekizumab Arm 2 (RS)
Subject analysis set type	Full analysis

Subject analysis set description:

Study participants received bimekizumab dose regimen 1 for 16 weeks and proceeded with bimekizumab dose regimen 2 until Week 56. Study participants received placebo at pre-specified time-points to maintain the blinding. Participants formed the Randomized Set (RS).

Subject analysis set title	Bimekizumab Arm 1 (RS)
Subject analysis set type	Full analysis

Subject analysis set description:

Study participants received bimekizumab dose regimen 1 for 56 weeks. Study participants received placebo at pre-specified time-points to maintain the blinding. Participants formed the Randomized Set (RS).

Subject analysis set title	Bimekizumab Arm 2 through Week 24 (SS)
Subject analysis set type	Safety analysis

Subject analysis set description:

Participants received bimekizumab dose regimen 1 for 16 weeks and proceeded with bimekizumab dose regimen 2 until Week 24. Participants received placebo at pre-specified time-points to maintain the blinding. Participants formed the Safety Set (SS).

Subject analysis set title	Bimekizumab Arm 1 through Week 24 (SS)
Subject analysis set type	Safety analysis

Subject analysis set description:

Participants received bimekizumab dose regimen 1 for 24 weeks. Participants received placebo at pre-specified time-points to maintain the blinding. Participants formed the SS.

Subject analysis set title	Adalimumab Arm through Week 24 (SS)
Subject analysis set type	Safety analysis

Subject analysis set description:

Participants received adalimumab for 24 weeks. Participants received placebo at pre-specified time-points to maintain the blinding. Participants formed the SS.

Subject analysis set title	Any bimekizumab dose regimen 2 (BKZ Set)
Subject analysis set type	Safety analysis

Subject analysis set description:

This arm consisted of all participants who received bimekizumab dose regimen 2 at any time in the study (up to 56 weeks). Participants formed the Bimekizumab Set (BKZ Set).

Subject analysis set title	Any bimekizumab dose regimen 1 (BKZ Set)
Subject analysis set type	Safety analysis

Subject analysis set description:

This arm consisted of all participants who received bimekizumab dose regimen 1 at any time in the study (up to 56 weeks). Participants formed the BKZ Set (BKZ Set).

Primary: Percentage of Participants with a Psoriasis Area and Severity Index 90 (PASI90) response at Week 16

End point title	Percentage of Participants with a Psoriasis Area and Severity Index 90 (PASI90) response at Week 16

End point description:

The PASI90 response assessments are based on at least 90% improvement in the PASI score from Baseline. Body divided into 4 areas: head, arms, trunk to groin, and legs to top of buttocks. Assignment of an average score for the redness, thickness, and scaling for each of the 4 body areas with a score of 0 (clear) to 4 (very marked). Determining the percentage of skin covered with PSO for each of the body areas and converting to a 0 to 6 scale. Final PASI= average redness, thickness, and scaliness of the psoriatic skin lesions, multiplied by the involved psoriasis area score of the respective section, and weighted by the percentage of the person’s affected skin for the respective section. The minimum possible PASI score is 0= no disease, the maximum score is 72= maximal disease.
The Randomized Set (RS) consisted of all randomized study participants. Both BKZ Arm 1 and BKZ Arm 2 are identical in terms of treatment received until Week 16 and therefore they are combined for analyses.

End point type	Primary

End point timeframe:

Week 16

End point values	Bimekizumab Arm 1 + Arm 2 (RS)	Adalimumab Arm (RS)		
Subject group type	Subject analysis set	Subject analysis set		
Number of subjects analysed	319	159		
Units: percentage of participants				
number (not applicable)	86.2	47.2		

Statistical analyses

Statistical analysis title	Statistical analysis 1
Statistical analysis description: Risk Difference: BKZ-ADA calculated using stratified CMH.	
Comparison groups	Bimekizumab Arm 1 + Arm 2 (RS) v Adalimumab Arm (RS)
Number of subjects included in analysis	478
Analysis specification	Pre-specified
Analysis type	non-inferiority[1]
Method	Cochran-Mantel-Haenszel
Parameter estimate	Risk difference (RD)
Point estimate	39.3
Confidence interval	
level	95 %
sides	2-sided
lower limit	30.9
upper limit	47.7

Notes:

[1] - The evaluation of non-inferiority is tested at a 1-sided alpha level of 0.025 and based on a 1-sided 97.5% CI and a non-inferiority margin of 10%.

Statistical analysis title	Statistical Analysis 2
Statistical analysis description: Odds ratio: BKZ/ADA calculated using stratified Cochran-Mantel-Haenszel (CMH) test with region and prior biologic exposure as stratification variables.	
Comparison groups	Bimekizumab Arm 1 + Arm 2 (RS) v Adalimumab Arm (RS)
Number of subjects included in analysis	478
Analysis specification	Pre-specified
Analysis type	superiority
P-value	< 0.001 [2]
Method	Cochran-Mantel-Haenszel
Parameter estimate	Odds ratio (OR)
Point estimate	7.459
Confidence interval	
level	95 %
sides	2-sided
lower limit	4.709
upper limit	11.816

Notes:

[2] - P-values for the comparison of treatment groups were based on the CMH test from the general association.

Primary: Percentage of Participants With an Investigator's Global Assessment (IGA) Response (Clear or Almost Clear With at Least 2-Category Improvement Relative to Baseline) at Week 16

End point title	Percentage of Participants With an Investigator's Global Assessment (IGA) Response (Clear or Almost Clear With at Least 2-Category Improvement Relative to Baseline) at Week 16

End point description:

The IGA measures the overall psoriasis severity following a 5-point scale (0-4), where scale 0= clear, no signs of psoriasis; presence of post-inflammatory hyperpigmentation, scale 1= almost clear, no thickening; normal to pink coloration; no to minimal focal scaling, scale 2= mild thickening, pink to light red coloration and predominately fine scaling, 3= moderate, clearly distinguishable to moderate thickening; dull to bright red, clearly distinguishable to moderate thickening; moderate scaling and 4= severe thickening with hard edges; bright to deep dark red coloration; severe/coarse scaling covering almost all or all lesions. IGA response was defined as clear [0] or almost clear [1] with at least a two-category improvement from Baseline at Week 16.
The Randomized Set (RS) consisted of all randomized study participants. Both BKZ Arm 1 and BKZ Arm 2 are identical in terms of treatment received until Week 16 and therefore they are combined for analyses.

End point type	Primary

End point timeframe:

Week 16

End point values	Bimekizumab Arm 1 + Arm 2 (RS)	Adalimumab Arm (RS)		
Subject group type	Subject analysis set	Subject analysis set		
Number of subjects analysed	319	159		
Units: percentage of participants				
number (not applicable)	85.3	57.2		

Statistical analyses

Statistical analysis title	Statistical analysis 1

Statistical analysis description:

Risk Difference: BKZ-ADA calculated using stratified CMH.

Comparison groups	Bimekizumab Arm 1 + Arm 2 (RS) v Adalimumab Arm (RS)
Number of subjects included in analysis	478
Analysis specification	Pre-specified
Analysis type	non-inferiority[3]
Method	Cochran-Mantel-Haenszel
Parameter estimate	Risk difference (RD)
Point estimate	28.2

Confidence interval	
level	95 %
sides	2-sided
lower limit	19.7
upper limit	36.7

Notes:

[3] - The evaluation of non-inferiority is tested at a 1-sided alpha level of 0.025 and based on a 1-sided 97.5% CI and a non-inferiority margin of 10%.

Statistical analysis title	Statistical analysis 2

Statistical analysis description:

Odds ratio: BKZ/ADA calculated using stratified Cochran-Mantel-Haenszel (CMH) test with region and prior biologic exposure as stratification variables.

Comparison groups	Bimekizumab Arm 1 + Arm 2 (RS) v Adalimumab Arm (RS)
Number of subjects included in analysis	478
Analysis specification	Pre-specified
Analysis type	superiority
P-value	< 0.001 [4]
Method	Cochran-Mantel-Haenszel
Parameter estimate	Odds ratio (OR)
Point estimate	4.341
Confidence interval	
level	95 %
sides	2-sided
lower limit	2.785
upper limit	6.765

Notes:

[4] - P-values for the comparison of treatment groups were based on the CMH test from the general association.

Secondary: Percentage of Participants With a PASI90 Response at Week 24

End point title	Percentage of Participants With a PASI90 Response at Week 24

End point description:

The PASI90 response assessments are based on at least 90% improvement in the PASI score from Baseline. Body divided into 4 areas: head, arms, trunk to groin, and legs to top of buttocks. Assignment of an average score for the redness, thickness, and scaling for each of the 4 body areas with a score of 0 (clear) to 4 (very marked). Determining the percentage of skin covered with PSO for each of the body areas and converting to a 0 to 6 scale. Final PASI= average redness, thickness, and scaliness of the psoriatic skin lesions, multiplied by the involved psoriasis area score of the respective section, and weighted by the percentage of the person’s affected skin for the respective section. The minimum possible PASI score is 0= no disease, the maximum score is 72= maximal disease.
The Randomized Set (RS) consisted of all randomized study participants. BKZ Arm 1 and BKZ Arm 2 were also combined for analyses purposes at Week 24 since they differ only one dose (Week 20).

End point type	Secondary

End point timeframe:

Week 24

End point values	Bimekizumab Arm 1 + Arm 2 (RS)	Adalimumab Arm (RS)	Bimekizumab Arm 2 (RS)	Bimekizumab Arm 1 (RS)
Subject group type	Subject analysis set	Subject analysis set	Subject analysis set	Subject analysis set
Number of subjects analysed	319	159	161	158
Units: percentage of participants				
number (not applicable)	85.6	51.6	85.1	86.1

Statistical analyses

Statistical analysis title	Statistical analysis 1
Statistical analysis description:	
Odds ratio: BKZ/ADA calculated using stratified Cochran-Mantel-Haenszel (CMH) test with region and prior biologic exposure as stratification variables.	
Comparison groups	Bimekizumab Arm 1 (RS) v Adalimumab Arm (RS)
Number of subjects included in analysis	317
Analysis specification	Pre-specified
Analysis type	superiority
P-value	< 0.001 [5]
Method	Cochran-Mantel-Haenszel
Parameter estimate	Odds ratio (OR)
Point estimate	6.231
Confidence interval	
level	95 %
sides	2-sided
lower limit	3.515
upper limit	11.046
Notes:	
[5] - P-values for the comparison of treatment groups were based on the CMH test from the general association.	

Statistical analysis title	Statistical Analysis 2
Statistical analysis description:	
Odds ratio: BKZ/ADA calculated using stratified CMH test with region and prior biologic exposure as stratification variables.	
Comparison groups	Bimekizumab Arm 1 + Arm 2 (RS) v Adalimumab Arm (RS)
Number of subjects included in analysis	478
Analysis specification	Pre-specified
Analysis type	superiority
P-value	< 0.001 [6]
Method	Cochran-Mantel-Haenszel
Parameter estimate	Odds ratio (OR)
Point estimate	5.75
Confidence interval	
level	95 %
sides	2-sided
lower limit	3.657
upper limit	9.041
Notes:	
[6] - P-values for the comparison of treatment groups were based on the CMH test from the general association.	

Secondary: Percentage of Participants With an IGA Response (Clear or Almost Clear with at least 2-category improvement relative to Baseline) at Week 24	
End point title	Percentage of Participants With an IGA Response (Clear or Almost Clear with at least 2-category improvement relative to Baseline) at Week 24

End point description:

The IGA measures the overall psoriasis severity following a 5-point scale (0-4), where scale 0= clear, no signs of psoriasis; presence of post-inflammatory hyperpigmentation, scale 1= almost clear, no thickening; normal to pink coloration; no to minimal focal scaling, scale 2= mild thickening, pink to light red coloration and predominately fine scaling, 3= moderate, clearly distinguishable to moderate thickening; dull to bright red, clearly distinguishable to moderate thickening; moderate scaling and 4= severe thickening with hard edges; bright to deep dark red coloration; severe/coarse scaling covering almost all or all lesions. IGA response was defined as clear [0] with at least a two-category improvement from Baseline at Week 24.
The Randomized Set (RS) consisted of all randomized study participants. BKZ Arm 1 and BKZ Arm 2 were also combined for analyses purposes at Week 24 since they differ only one dose (Week 20).

End point type	Secondary

End point timeframe:

Week 24

End point values	Bimekizumab Arm 1 + Arm 2 (RS)	Adalimumab Arm (RS)	Bimekizumab Arm 2 (RS)	Bimekizumab Arm 1 (RS)
Subject group type	Subject analysis set	Subject analysis set	Subject analysis set	Subject analysis set
Number of subjects analysed	319	159	161	158
Units: percentage of participants				
number (not applicable)	86.5	57.9	87.0	86.1

Statistical analyses

Statistical analysis title	Statistical analysis 1

Statistical analysis description:

Odds ratio: BKZ/ADA calculated using stratified Cochran-Mantel-Haenszel (CMH) test with region and prior biologic exposure as stratification variables.

Comparison groups	Bimekizumab Arm 1 (RS) v Adalimumab Arm (RS)
Number of subjects included in analysis	317
Analysis specification	Pre-specified
Analysis type	superiority
P-value	< 0.001 [7]
Method	Cochran-Mantel-Haenszel
Parameter estimate	Odds ratio (OR)
Point estimate	4.724
Confidence interval	
level	95 %
sides	2-sided
lower limit	2.683
upper limit	8.318

Notes:

[7] - P-values for the comparison of treatment groups were based on the CMH test from the general association.

Statistical analysis title	Statistical analysis 2

Statistical analysis description:

Odds ratio: BKZ/ADA calculated using stratified CMH test with region and prior biologic exposure as stratification variables.

Comparison groups	Bimekizumab Arm 1 + Arm 2 (RS) v Adalimumab Arm (RS)
Number of subjects included in analysis	478
Analysis specification	Pre-specified
Analysis type	superiority
P-value	< 0.001 [8]
Method	Cochran-Mantel-Haenszel
Parameter estimate	Odds ratio (OR)
Point estimate	4.762
Confidence interval	
level	95 %
sides	2-sided
lower limit	3.014
upper limit	7.523

Notes:

[8] - P-values for the comparison of treatment groups were based on the CMH test from the general association.

Secondary: Percentage of Participants With a PASI75 Response at Week 4

End point title	Percentage of Participants With a PASI75 Response at Week 4

End point description:

The PASI75 response assessments are based on at least 75% improvement in the PASI score from Baseline. Body divided into 4 areas: head, arms, trunk to groin, and legs to top of buttocks. Assignment of an average score for the redness, thickness, and scaling for each of the 4 body areas with a score of 0 (clear) to 4 (very marked). Determining the percentage of skin covered with PSO for each of the body areas and converting to a 0 to 6 scale. Final PASI= average redness, thickness, and scaliness of the psoriatic skin lesions, multiplied by the involved psoriasis area score of the respective section, and weighted by the percentage of the person’s affected skin for the respective section. The minimum possible PASI score is 0= no disease, the maximum score is 72= maximal disease.
The Randomized Set (RS) consisted of all randomized study participants. Both BKZ Arm 1 and BKZ Arm 2 are identical in terms of treatment received until Week 16 and therefore they are combined for analyses.

End point type	Secondary

End point timeframe:

Week 4

End point values	Bimekizumab Arm 1 + Arm 2 (RS)	Adalimumab Arm (RS)		
Subject group type	Subject analysis set	Subject analysis set		
Number of subjects analysed	319	159		
Units: percentage of participants				
number (not applicable)	76.5	31.4		

Statistical analyses

Statistical analysis title	Statistical analysis 1
Statistical analysis description:	
Odds ratio: BKZ/ADA calculated using stratified Cochran-Mantel-Haenszel (CMH) test with region and prior biologic exposure as stratification variables.	
Comparison groups	Bimekizumab Arm 1 + Arm 2 (RS) v Adalimumab Arm (RS)
Number of subjects included in analysis	478
Analysis specification	Pre-specified
Analysis type	superiority
P-value	< 0.001 [9]
Method	Cochran-Mantel-Haenszel
Parameter estimate	Odds ratio (OR)
Point estimate	7.103
Confidence interval	
level	95 %
sides	2-sided
lower limit	4.637
upper limit	10.88

Notes:

Statistical analyses

Statistical analysis title	Statistical analysis 1
Statistical analysis description:	
Odds ratio: BKZ/ADA calculated using stratified Cochran-Mantel-Haenszel (CMH) test with region and prior biologic exposure as stratification variables.	
Comparison groups	Bimekizumab Arm 1 + Arm 2 (RS) v Adalimumab Arm (RS)
Number of subjects included in analysis	478
Analysis specification	Pre-specified
Analysis type	superiority
P-value	< 0.001 [10]
Method	Cochran-Mantel-Haenszel
Parameter estimate	Odds ratio (OR)
Point estimate	4.974
Confidence interval	
level	95 %
sides	2-sided
lower limit	3.23
upper limit	7.661
Notes:	
[10] - P-values for the comparison of treatment groups were based on the CMH test from the general association.	

Secondary: Percentage of Participants With a PASI100 Response at Week 24

End point title	Percentage of Participants With a PASI100 Response at Week 24
End point description:	
The PASI100 response assessments are based on a 100% improvement in the PASI score from Baseline. Body divided into 4 areas: head, arms, trunk to groin, and legs to top of buttocks. Assignment of an average score for the redness, thickness, and scaling for each of the 4 body areas with a score of 0 (clear) to 4 (very marked). Determining the percentage of skin covered with PSO for each of the body areas and converting to a 0 to 6 scale. Final PASI= average redness, thickness, and scaliness of the psoriatic skin lesions, multiplied by the involved psoriasis area score of the respective section, and weighted by the percentage of the person's affected skin for the respective section. The minimum possible PASI score is 0= no disease, the maximum score is 72= maximal disease. The Randomized Set (RS) consisted of all randomized study participants. BKZ Arm 1 and BKZ Arm 2 were also combined for analyses purposes at Week 24 since they differ only one dose (Week 20)	
End point type	Secondary
End point timeframe:	
Week 24	

End point values	Bimekizumab Arm 1 + Arm 2 (RS)	Adalimumab Arm (RS)	Bimekizumab Arm 2 (RS)	Bimekizumab Arm 1 (RS)
Subject group type	Subject analysis set	Subject analysis set	Subject analysis set	Subject analysis set
Number of subjects analysed	319	159	161	158
Units: percentage of participants				
number (not applicable)	66.8	29.6	65.8	67.7

Statistical analyses

Statistical analysis title	Statistical analysis 1

Statistical analysis description:

Odds ratio: BKZ/ADA calculated using stratified Cochran-Mantel-Haenszel (CMH) test with region and prior biologic exposure as stratification variables.

Comparison groups	Bimekizumab Arm 1 (RS) v Adalimumab Arm (RS)
Number of subjects included in analysis	317
Analysis specification	Pre-specified
Analysis type	superiority
P-value	< 0.001 [11]
Method	Cochran-Mantel-Haenszel
Parameter estimate	Odds ratio (OR)
Point estimate	5.249
Confidence interval	
level	95 %
sides	2-sided
lower limit	3.207
upper limit	8.593

Notes:

[11] - P-values for the comparison of treatment groups were based on the CMH test from the general association.

Statistical analysis title	Statistical analysis 2

Statistical analysis description:

Odds ratio: BKZ/ADA calculated using stratified CMH test with region and prior biologic exposure as stratification variables.

Comparison groups	Bimekizumab Arm 1 + Arm 2 (RS) v Adalimumab Arm (RS)
Number of subjects included in analysis	478
Analysis specification	Pre-specified
Analysis type	superiority
P-value	< 0.001 [12]
Method	Cochran-Mantel-Haenszel
Parameter estimate	Odds ratio (OR)
Point estimate	4.974
Confidence interval	
level	95 %
sides	2-sided
lower limit	3.257
upper limit	7.594

Notes:

[12] - P-values for the comparison of treatment groups were based on the CMH test from the general association.

Secondary: Percentage of Participants With a PASI90 Response at Week 56

End point title	Percentage of Participants With a PASI90 Response at Week 56

End point description:

PASI90 response assessments are based on at least 90% improvement in the PASI score from Baseline. Body divided into 4 areas: head/arms/trunk to groin/and legs to top of buttocks. Assignment of an average score for the redness/thickness/scaling for each of the 4 body areas with a score of 0 (clear)-4 (very marked). Determining the percentage of skin covered with PSO for each of the body areas and converting to a 0-6 scale. Final PASI=average redness/thickness/scaliness of the psoriatic skin lesions multiplied by the involved psoriasis area score of the respective section and weighted by the percentage of the person’s affected skin for the respective section. The min possible PASI score is 0=no disease, max score is 72=maximal disease.
The RS consisted of all randomized study participants. ADA participants were not included as they did not start BKZ treatment at Baseline, thus did not have a year of BKZ treatment. The purpose of this

table is to look at response after one year of BKZ.

End point type	Secondary

End point timeframe:

Week 56

End point values	Bimekizumab Arm 2 (RS)	Bimekizumab Arm 1 (RS)		
Subject group type	Subject analysis set	Subject analysis set		
Number of subjects analysed	161	158		
Units: percentage of participants				
number (not applicable)	82.6	84.8		

Statistical analyses

No statistical analyses for this end point

Secondary: Percentage of Participants With an IGA Response (Clear or Almost Clear with at least 2-category improvement relative to Baseline) at Week 56

End point title	Percentage of Participants With an IGA Response (Clear or Almost Clear with at least 2-category improvement relative to Baseline) at Week 56

End point description:

IGA measures the overall psoriasis severity following a 5-point scale (0-4), where scale 0=clear, no signs of psoriasis; presence of post-inflammatory hyperpigmentation, scale 1=almost clear, no thickening; normal to pink coloration; no to minimal focal scaling, scale 2=mild thickening, pink to light red coloration and predominately fine scaling, 3=moderate, clearly distinguishable to moderate thickening; dull to bright red, clearly distinguishable to moderate thickening; moderate scaling and 4=severe thickening with hard edges; bright to deep dark red coloration; severe/coarse scaling covering almost all or all lesions. IGA response was defined as clear [0]/almost clear [1] with at least a 2-category improvement from Baseline at Wk56.
The RS consisted of all randomized study participants. ADA participants were not included as they did not start BKZ treatment at Baseline, thus did not have a year of BKZ treatment. The purpose of this table is to look at response after one year of BKZ.

End point type	Secondary

End point timeframe:

Week 56

End point values	Bimekizumab Arm 2 (RS)	Bimekizumab Arm 1 (RS)		
Subject group type	Subject analysis set	Subject analysis set		
Number of subjects analysed	161	158		
Units: percentage of participants				
number (not applicable)	83.2	82.3		

Statistical analyses

No statistical analyses for this end point

Secondary: Number of Treatment-emergent Adverse Events (TEAEs) Adjusted by Duration of Participant Exposure to Study Treatment from Baseline to Week 24

End point title	Number of Treatment-emergent Adverse Events (TEAEs) Adjusted by Duration of Participant Exposure to Study Treatment from Baseline to Week 24

End point description:

The number of TEAEs adjusted by duration of exposure to study treatment was scaled such that provided an incidence rate per 100 patient-years. If a participant had multiple events, the time of exposure was calculated to the first occurrence of the AE being considered. If a participant had no events, the total time at risk was used.
The Safety Set (SS) consisted of all study participants who received at least 1 dose of IMP.

End point type	Secondary

End point timeframe:

From Baseline to Week 24

End point values	Bimekizumab Arm 2 through Week 24 (SS)	Bimekizumab Arm 1 through Week 24 (SS)	Adalimumab Arm through Week 24 (SS)	
Subject group type	Subject analysis set	Subject analysis set	Subject analysis set	
Number of subjects analysed	161	158	159	
Units: no. of new events per 100 subject-years				
number (confidence interval 95%)	310.44 (256.52 to 372.34)	300.71 (247.60 to 361.83)	297.54 (244.77 to 358.31)	

Statistical analyses

No statistical analyses for this end point

Secondary: Number of Serious Adverse Events (SAEs) Adjusted by Duration of Participant Exposure to Study Treatment from Baseline to Week 24

End point title	Number of Serious Adverse Events (SAEs) Adjusted by Duration of Participant Exposure to Study Treatment from Baseline to Week 24

End point description:

The number of SAEs adjusted by duration of exposure to study treatment was scaled such that it provided an incidence rate per 100 patient-years. If a participant had multiple events, the time of exposure was calculated to the first occurrence of the AE being considered. If a participant had no events, the total time at risk was used.
The Safety Set (SS) consisted of all study participants that received at least 1 dose of IMP.

End point type	Secondary

End point timeframe:

From Baseline to Week 24

End point values	Bimekizumab Arm 2 through Week 24 (SS)	Bimekizumab Arm 1 through Week 24 (SS)	Adalimumab Arm through Week 24 (SS)	
Subject group type	Subject analysis set	Subject analysis set	Subject analysis set	
Number of subjects analysed	161	158	159	
Units: no. of new events per 100 subject-years				
number (confidence interval 95%)	1.37 (0.03 to 7.66)	5.61 (1.53 to 14.38)	6.98 (2.27 to 16.30)	

Statistical analyses

No statistical analyses for this end point

Secondary: Number of Treatment-emergent Adverse Events (TEAEs) Leading to Withdrawal Adjusted by Duration of Participant Exposure to Study Treatment from Baseline to Week 24

End point title	Number of Treatment-emergent Adverse Events (TEAEs) Leading to Withdrawal Adjusted by Duration of Participant Exposure to Study Treatment from Baseline to Week 24

End point description:

The number of TEAEs leading to discontinuation adjusted by duration of exposure to study treatment was scaled such that it provided an incidence rate per 100 patient-years. If a participant had multiple events, the time of exposure was calculated to the first occurrence of the AE being considered. If a participant had no events, the total time at risk was used.
The Safety Set (SS) consisted of all study participants that received at least 1 dose of IMP.

End point type	Secondary

End point timeframe:

From Baseline to Week 24

End point values	Bimekizumab Arm 2 through Week 24 (SS)	Bimekizumab Arm 1 through Week 24 (SS)	Adalimumab Arm through Week 24 (SS)	
Subject group type	Subject analysis set	Subject analysis set	Subject analysis set	
Number of subjects analysed	161	158	159	
Units: no. of new events per 100 subject-years				
number (confidence interval 95%)	8.30 (3.05 to 18.07)	4.16 (0.86 to 12.17)	6.98 (2.27 to 16.29)	

Statistical analyses

No statistical analyses for this end point

Secondary: Number of Treatment-emergent Adverse Events (TEAEs) Adjusted by Duration of Participant Exposure to Study Treatment from Baseline to Safety Follow-Up Visit (up to Week 72)

End point title	Number of Treatment-emergent Adverse Events (TEAEs) Adjusted by Duration of Participant Exposure to Study

	Treatment from Baseline to Safety Follow-Up Visit (up to Week 72)

End point description:

The number of TEAEs adjusted by duration of exposure to study treatment was scaled such that it provided an incidence rate per 100 patient-years. If a participant had multiple events, the time of exposure was calculated to the first occurrence of the AE being considered. If a participant had no events, the total time at risk was used.
The Bimekizumab Set (BKZ Set) consisted of all study participants who received at least 1 dose of bimekizumab in this study.

End point type	Secondary

End point timeframe:

From Baseline to Safety Follow-Up Visit (up to Week 72)

End point values	Any bimekizumab dose regimen 2 (BKZ Set)	Any bimekizumab dose regimen 1 (BKZ Set)		
Subject group type	Subject analysis set	Subject analysis set		
Number of subjects analysed	154	468		
Units: no. of new events per 100 subject-years				
number (confidence interval 95%)	231.38 (191.68 to 276.88)	262.41 (235.37 to 291.71)		

Statistical analyses

No statistical analyses for this end point

Secondary: Number of Serious Adverse Events (SAEs) Adjusted by Duration of Participant Exposure to Study Treatment from Baseline to Safety Follow-Up Visit (up to Week 72)

End point title	Number of Serious Adverse Events (SAEs) Adjusted by Duration of Participant Exposure to Study Treatment from Baseline to Safety Follow-Up Visit (up to Week 72)

End point description:

The number of SAEs adjusted by duration of exposure to study treatment was scaled such that it provided an incidence rate per 100 patient-years. If a participant had multiple events, the time of exposure was calculated to the first occurrence of the AE being considered. If a participant had no events, the total time at risk was used.
The Bimekizumab Set (BKZ Set) consisted of all study participants who received at least 1 dose of bimekizumab in this study.

End point type	Secondary

End point timeframe:

From Baseline to Safety Follow-Up Visit (up to Week 72)

End point values	Any bimekizumab dose regimen 2 (BKZ Set)	Any bimekizumab dose regimen 1 (BKZ Set)		
Subject group type	Subject analysis set	Subject analysis set		
Number of subjects analysed	154	468		
Units: no. of new events per 100 subject-years				
number (confidence interval 95%)	7.03 (3.04 to 13.86)	5.34 (3.05 to 8.67)		

Statistical analyses

No statistical analyses for this end point

Secondary: Number of Treatment-emergent Adverse Events (TEAEs) Leading to Withdrawal Adjusted by Duration of Participant Exposure to Study Treatment from Baseline to Safety Follow-Up Visit (up to Week 72)

End point title	Number of Treatment-emergent Adverse Events (TEAEs) Leading to Withdrawal Adjusted by Duration of Participant Exposure to Study Treatment from Baseline to Safety Follow-Up Visit (up to Week 72)

End point description:

The number of TEAEs leading to discontinuation adjusted by duration of exposure to study treatment was scaled such that it provided an incidence rate per 100 patient-years. If a participant had multiple events, the time of exposure was calculated to the first occurrence of the AE being considered. If a participant had no events, the total time at risk was used.
The Bimekizumab Set (BKZ Set) consisted of all study participants who received at least 1 dose of bimekizumab in this study.

End point type	Secondary

End point timeframe:

From Baseline to Safety Follow-Up Visit (up to Week 72)

End point values	Any bimekizumab dose regimen 2 (BKZ Set)	Any bimekizumab dose regimen 1 (BKZ Set)		
Subject group type	Subject analysis set	Subject analysis set		
Number of subjects analysed	154	468		
Units: no. of new events per 100 subject-years				
number (confidence interval 95%)	4.37 (1.42 to 10.19)	4.62 (2.53 to 7.75)		

Statistical analyses

No statistical analyses for this end point

Adverse events

Adverse events information

Timeframe for reporting adverse events:

Treatment-emergent AEs were collected from Baseline to Safety Follow-Up Visit (up to Week 72)

Adverse event reporting additional description:

Treatment-emergent AEs were defined as those AEs that had a start date on or following the first dose of study treatment through the final dose of study treatment + 140 days (covering up to Safety Follow-Up Visit for study participants not enrolling in Open-label Extension (OLE) study).

Assessment type	Non-systematic

Dictionary used

Dictionary name	MedDRA
Dictionary version	19.0

Reporting groups

Reporting group title	Bimekizumab Arm 2 through Week 24 (SS)

Reporting group description:

Participants received bimekizumab dose regimen 1 for 16 weeks and proceeded with bimekizumab dose regimen 2 until Week 24. Participants received placebo at pre-specified time-points to maintain the blinding. Participants formed the Safety Set (SS).

Reporting group title	Bimekizumab Arm 1 through Week 24 (SS)

Reporting group description:

Participants received bimekizumab dose regimen 1 for 24 weeks. Participants received placebo at pre-specified time-points to maintain the blinding. Participants formed the SS.

Reporting group title	Adalimumab Arm through Week 24 (SS)

Reporting group description:

Participants received adalimumab for 24 weeks. Participants received placebo at pre-specified time-points to maintain the blinding. Participants formed the SS.

Reporting group title	Any bimekizumab dose regimen 2 (BKZ Set)

Reporting group description:

This arm consisted of all participants who received bimekizumab dose regimen 2 at any time in the study (up to 56 weeks). Participants formed the Bimekizumab Set (BKZ Set).

Reporting group title	Any bimekizumab dose regimen 1 (BKZ Set)

Reporting group description:

This arm consisted of all participants who received bimekizumab dose regimen 1 at any time in the study (up to 56 weeks). Participants formed the BKZ Set (BKZ Set).

Serious adverse events	Bimekizumab Arm 2 through Week 24 (SS)	Bimekizumab Arm 1 through Week 24 (SS)	Adalimumab Arm through Week 24 (SS)
Total subjects affected by serious adverse events			
subjects affected / exposed	1 / 161 (0.62%)	4 / 158 (2.53%)	5 / 159 (3.14%)
number of deaths (all causes)	0	0	1
number of deaths resulting from adverse events	0	0	0
Neoplasms benign, malignant and unspecified (incl cysts and polyps)			
Squamous cell carcinoma of the tongue			

subjects affected / exposed	0 / 161 (0.00%)	0 / 158 (0.00%)	1 / 159 (0.63%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 1
Colon cancer			
subjects affected / exposed	0 / 161 (0.00%)	0 / 158 (0.00%)	0 / 159 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Vascular disorders			
Hypertension			
subjects affected / exposed	0 / 161 (0.00%)	0 / 158 (0.00%)	0 / 159 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Pregnancy, puerperium and perinatal conditions			
Abortion spontaneous			
subjects affected / exposed	0 / 161 (0.00%)	1 / 158 (0.63%)	0 / 159 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
General disorders and administration site conditions			
Non-cardiac chest pain			
subjects affected / exposed	0 / 161 (0.00%)	0 / 158 (0.00%)	0 / 159 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Immune system disorders			
Sarcoidosis			
subjects affected / exposed	0 / 161 (0.00%)	0 / 158 (0.00%)	0 / 159 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Reproductive system and breast disorders			
Ovarian cyst ruptured			
subjects affected / exposed	0 / 161 (0.00%)	1 / 158 (0.63%)	0 / 159 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Investigations			

Hepatic enzyme increased			
subjects affected / exposed	0 / 161 (0.00%)	0 / 158 (0.00%)	0 / 159 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Injury, poisoning and procedural complications			
Subdural haematoma			
subjects affected / exposed	0 / 161 (0.00%)	0 / 158 (0.00%)	0 / 159 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Cardiac disorders			
Coronary artery stenosis			
subjects affected / exposed	0 / 161 (0.00%)	0 / 158 (0.00%)	0 / 159 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Nervous system disorders			
Carotid artery stenosis			
subjects affected / exposed	0 / 161 (0.00%)	0 / 158 (0.00%)	1 / 159 (0.63%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Blood and lymphatic system disorders			
Haemorrhagic anaemia			
subjects affected / exposed	0 / 161 (0.00%)	0 / 158 (0.00%)	0 / 159 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Eye disorders			
Retinal detachment			
subjects affected / exposed	0 / 161 (0.00%)	1 / 158 (0.63%)	0 / 159 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Gastrointestinal disorders			
Irritable bowel syndrome			
subjects affected / exposed	0 / 161 (0.00%)	1 / 158 (0.63%)	0 / 159 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Haemorrhoidal haemorrhage			

Calculus urinary			
subjects affected / exposed	0 / 161 (0.00%)	0 / 158 (0.00%)	1 / 159 (0.63%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Musculoskeletal and connective tissue disorders			
Intervertebral disc protrusion			
subjects affected / exposed	0 / 161 (0.00%)	0 / 158 (0.00%)	1 / 159 (0.63%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Infections and infestations			
Cellulitis			
subjects affected / exposed	1 / 161 (0.62%)	0 / 158 (0.00%)	0 / 159 (0.00%)
occurrences causally related to treatment / all	1 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Infected dermal cyst			
subjects affected / exposed	0 / 161 (0.00%)	0 / 158 (0.00%)	1 / 159 (0.63%)
occurrences causally related to treatment / all	0 / 0	0 / 0	1 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Anal abscess			
subjects affected / exposed	0 / 161 (0.00%)	0 / 158 (0.00%)	0 / 159 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Appendicitis			
subjects affected / exposed	0 / 161 (0.00%)	0 / 158 (0.00%)	0 / 159 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Helicobacter infection			
subjects affected / exposed	0 / 161 (0.00%)	0 / 158 (0.00%)	0 / 159 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Metabolism and nutrition disorders			
Diabetes mellitus inadequate control			

subjects affected / exposed	0 / 161 (0.00%)	0 / 158 (0.00%)	0 / 159 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Type 2 diabetes mellitus			
subjects affected / exposed	0 / 161 (0.00%)	0 / 158 (0.00%)	0 / 159 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0

Serious adverse events	Any bimekizumab dose regimen 2 (BKZ Set)	Any bimekizumab dose regimen 1 (BKZ Set)	
Total subjects affected by serious adverse events			
subjects affected / exposed	8 / 154 (5.19%)	16 / 468 (3.42%)	
number of deaths (all causes)	0	0	
number of deaths resulting from adverse events	0	0	
Neoplasms benign, malignant and unspecified (incl cysts and polyps)			
Squamous cell carcinoma of the tongue			
subjects affected / exposed	0 / 154 (0.00%)	0 / 468 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Colon cancer			
subjects affected / exposed	1 / 154 (0.65%)	0 / 468 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Vascular disorders			
Hypertension			
subjects affected / exposed	1 / 154 (0.65%)	0 / 468 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Pregnancy, puerperium and perinatal conditions			
Abortion spontaneous			
subjects affected / exposed	0 / 154 (0.00%)	1 / 468 (0.21%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
General disorders and administration site conditions			

Non-cardiac chest pain			
subjects affected / exposed	1 / 154 (0.65%)	0 / 468 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Immune system disorders			
Sarcoidosis			
subjects affected / exposed	0 / 154 (0.00%)	1 / 468 (0.21%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Reproductive system and breast disorders			
Ovarian cyst ruptured			
subjects affected / exposed	0 / 154 (0.00%)	1 / 468 (0.21%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Investigations			
Hepatic enzyme increased			
subjects affected / exposed	1 / 154 (0.65%)	0 / 468 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Injury, poisoning and procedural complications			
Subdural haematoma			
subjects affected / exposed	0 / 154 (0.00%)	1 / 468 (0.21%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Cardiac disorders			
Coronary artery stenosis			
subjects affected / exposed	0 / 154 (0.00%)	1 / 468 (0.21%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Nervous system disorders			
Carotid artery stenosis			
subjects affected / exposed	0 / 154 (0.00%)	0 / 468 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Blood and lymphatic system disorders			

Haemorrhagic anaemia			
subjects affected / exposed	1 / 154 (0.65%)	0 / 468 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Eye disorders			
Retinal detachment			
subjects affected / exposed	0 / 154 (0.00%)	1 / 468 (0.21%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Gastrointestinal disorders			
Irritable bowel syndrome			
subjects affected / exposed	0 / 154 (0.00%)	1 / 468 (0.21%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Haemorrhoidal haemorrhage			
subjects affected / exposed	0 / 154 (0.00%)	0 / 468 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Pancreatitis			
subjects affected / exposed	0 / 154 (0.00%)	1 / 468 (0.21%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Gastric polyps			
subjects affected / exposed	0 / 154 (0.00%)	1 / 468 (0.21%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Duodenal ulcer haemorrhage			
subjects affected / exposed	1 / 154 (0.65%)	0 / 468 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Umbilical hernia			
subjects affected / exposed	1 / 154 (0.65%)	0 / 468 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	

Hepatobiliary disorders			
Cholecystitis			
subjects affected / exposed	0 / 154 (0.00%)	1 / 468 (0.21%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Skin and subcutaneous tissue disorders			
Subcutaneous abscess			
subjects affected / exposed	0 / 154 (0.00%)	1 / 468 (0.21%)	
occurrences causally related to treatment / all	0 / 0	1 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Erysipelas			
subjects affected / exposed	1 / 154 (0.65%)	0 / 468 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Renal and urinary disorders			
Calculus urinary			
subjects affected / exposed	0 / 154 (0.00%)	0 / 468 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Musculoskeletal and connective tissue disorders			
Intervertebral disc protrusion			
subjects affected / exposed	0 / 154 (0.00%)	1 / 468 (0.21%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Infections and infestations			
Cellulitis			
subjects affected / exposed	0 / 154 (0.00%)	3 / 468 (0.64%)	
occurrences causally related to treatment / all	0 / 0	1 / 3	
deaths causally related to treatment / all	0 / 0	0 / 0	
Infected dermal cyst			
subjects affected / exposed	0 / 154 (0.00%)	0 / 468 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Anal abscess			

subjects affected / exposed	0 / 154 (0.00%)	1 / 468 (0.21%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Appendicitis			
subjects affected / exposed	1 / 154 (0.65%)	0 / 468 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Helicobacter infection			
subjects affected / exposed	0 / 154 (0.00%)	1 / 468 (0.21%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Metabolism and nutrition disorders			
Diabetes mellitus inadequate control			
subjects affected / exposed	0 / 154 (0.00%)	1 / 468 (0.21%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Type 2 diabetes mellitus			
subjects affected / exposed	0 / 154 (0.00%)	1 / 468 (0.21%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	

Frequency threshold for reporting non-serious adverse events: 5 %

Non-serious adverse events	Bimekizumab Arm 2 through Week 24 (SS)	Bimekizumab Arm 1 through Week 24 (SS)	Adalimumab Arm through Week 24 (SS)
Total subjects affected by non-serious adverse events			
subjects affected / exposed	65 / 161 (40.37%)	61 / 158 (38.61%)	62 / 159 (38.99%)
Vascular disorders			
Hypertension			
subjects affected / exposed	9 / 161 (5.59%)	6 / 158 (3.80%)	13 / 159 (8.18%)
occurrences (all)	10	6	13
Gastrointestinal disorders			
Diarrhoea			
subjects affected / exposed	5 / 161 (3.11%)	8 / 158 (5.06%)	4 / 159 (2.52%)
occurrences (all)	5	9	6

Infections and infestations			
Nasopharyngitis			
subjects affected / exposed	27 / 161 (16.77%)	32 / 158 (20.25%)	38 / 159 (23.90%)
occurrences (all)	40	46	50
Oral candidiasis			
subjects affected / exposed	19 / 161 (11.80%)	15 / 158 (9.49%)	0 / 159 (0.00%)
occurrences (all)	26	20	0
Upper respiratory tract infection			
subjects affected / exposed	12 / 161 (7.45%)	7 / 158 (4.43%)	15 / 159 (9.43%)
occurrences (all)	14	8	21
Pharyngitis			
subjects affected / exposed	5 / 161 (3.11%)	4 / 158 (2.53%)	1 / 159 (0.63%)
occurrences (all)	7	4	1

Non-serious adverse events	Any bimekizumab dose regimen 2 (BKZ Set)	Any bimekizumab dose regimen 1 (BKZ Set)	
Total subjects affected by non-serious adverse events			
subjects affected / exposed	60 / 154 (38.96%)	182 / 468 (38.89%)	
Vascular disorders			
Hypertension			
subjects affected / exposed	4 / 154 (2.60%)	19 / 468 (4.06%)	
occurrences (all)	4	20	
Gastrointestinal disorders			
Diarrhoea			
subjects affected / exposed	5 / 154 (3.25%)	14 / 468 (2.99%)	
occurrences (all)	5	16	
Infections and infestations			
Nasopharyngitis			
subjects affected / exposed	28 / 154 (18.18%)	79 / 468 (16.88%)	
occurrences (all)	35	113	
Oral candidiasis			
subjects affected / exposed	17 / 154 (11.04%)	66 / 468 (14.10%)	
occurrences (all)	26	104	
Upper respiratory tract infection			
subjects affected / exposed	13 / 154 (8.44%)	30 / 468 (6.41%)	
occurrences (all)	16	40	
Pharyngitis			

subjects affected / exposed occurrences (all)	11 / 154 (7.14%) 11	13 / 468 (2.78%) 14	

More information

Substantial protocol amendments (globally)

Were there any global substantial amendments to the protocol? Yes

Date	Amendment
06 April 2018	Protocol Amendment 2 (06 Apr 2018) included the following modifications: • Extended the duration of the Screening Period, and therefore the overall study duration, by 1 week • Updated list of current treatment for Psoriasis (PSO) to reflect changes in labeling and approved countries • Updated list of completed and ongoing bimekizumab studies to reflect completion of study UP0042 • Clarified calculation of PASI response rates • Removed references to pharmacodynamic (PD) assessments as they were not conducted in this study • Updated the schedule of study assessments to include a hematology and biochemistry sample at Week 28, and to modify the visits at which the Tuberculosis (TB) questionnaire, body weight, physical examination, and Electrocardiogram (ECG) were assessed • Clarified that all visits from first dose to Week 24 would have a ±3 day visit window, while all visits from Week 28 to end of study would have a ±7 day window • Clarified the dosing window • Modified exclusion criterion to clarify exclusion of study participants who participated in other studies of bimekizumab, other medications (systemic or topical), or devices • Modified exclusion criteria to exclude use of prohibited PSO medications • Modified exclusion criteria pertaining to history of malignancy, systemic disease, and major depression • Added new withdrawal criteria for nonresponders and for study participants with newly diagnosed inflammatory bowel disease (IBD) • Clarified withdrawal criteria for study participants with depression or suicidal ideation or behavior • Corrected information pertaining to how adalimumab was supplied • Updated prohibited concomitant medications to include tildrakizumab and risankizumab • Corrected discrepancies between Study procedures by visit and Schedule of study assessments • Revised Psoriatic Arthritis Screening and Evaluation (PASE) questionnaire scoring • Clarified definition of abortion • Updated laboratory measurements to be performed
06 April 2018	Continuation of Protocol Amendment 2: • Provided additional details for requirements for investigational medicinal product (IMP) rechallenge in the event of potential drug-induced liver injury (PDILI) • Defined a bimekizumab Set as an analysis population • Clarified regions for analyses • Updated the sequence testing and analysis of secondary efficacy variables In addition, minor spelling, editorial, and formatting changes were made, and the List of abbreviations was updated.

Notes:

Interruptions (globally)

Were there any global interruptions to the trial? No

Limitations and caveats

None reported