



Clinical trial results:

A Phase 3, Multicenter, Randomized, Double-Blind, Placebo- and Active Comparator-Controlled, Parallel-Group Study to Evaluate the Efficacy and Safety of Bimekizumab in Adult Subjects With Moderate to Severe Chronic Plaque Psoriasis

Summary

EudraCT number	2016-003425-42
Trial protocol	DE GB HU BE FR IT
Global end of trial date	13 December 2019

Results information

Result version number	v2 (current)
This version publication date	03 June 2022
First version publication date	26 December 2020
Version creation reason	• Correction of full data set Alignment with final posting on ClinicalTrials.gov after NIH review.

Trial information

Trial identification

Sponsor protocol code	PS0009
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Additional study identifiers

ISRCTN number	-
ClinicalTrials.gov id (NCT number)	NCT03370133
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	07 February 2020
Is this the analysis of the primary completion data?	No
Global end of trial reached?	Yes
Global end of trial date	13 December 2019
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 placebo 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:

Not Applicable

Evidence for comparator:

Ustekinumab has been approved in the US and the EU for the treatment of patients with moderate to severe plaque PSO who are candidates for phototherapy or systemic therapy. Ustekinumab is a human immunoglobulin (Ig) G1κ monoclonal antibody that binds with specificity to the p40 protein subunit used by both the IL-12 and IL-23 cytokines, naturally occurring cytokines that are involved in inflammatory and immune responses, such as natural killer cell activation and CD4+ T-cell differentiation and activation.

Actual start date of recruitment	06 December 2017
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	Belgium: 6
Country: Number of subjects enrolled	Australia: 14
Country: Number of subjects enrolled	Canada: 61
Country: Number of subjects enrolled	Germany: 62
Country: Number of subjects enrolled	Hungary: 27
Country: Number of subjects enrolled	Italy: 4
Country: Number of subjects enrolled	Japan: 108
Country: Number of subjects enrolled	Poland: 143
Country: Number of subjects enrolled	Russian Federation: 19
Country: Number of subjects enrolled	United Kingdom: 7
Country: Number of subjects enrolled	United States: 116
Worldwide total number of subjects	567
EEA total number of subjects	242

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)	505
From 65 to 84 years	62
85 years and over	0

Subject disposition

Recruitment

Recruitment details:

This study started to enroll participants in December 2017 and concluded in December 2019.

Pre-assignment

Screening details:

The study included a 2-5 week Screening Period, a 16-week Initial Period and a 36-week Maintenance Period. After the Maintenance Period participants either enrolled in an open-label study or had a SFU Visit 20 weeks after their final dose (including those withdrawn from IMP). Participant Flow refers to the Randomized Set and Maintenance Set.

Period 1

Period 1 title	Initial Treatment Period (WK 16)
Is this the baseline period?	Yes
Allocation method	Randomised - controlled
Blinding used	Double blind
Roles blinded	Investigator, Carer, Subject, Assessor

Arms

Are arms mutually exclusive?	Yes
Arm title	Placebo

Arm description:

Participants received placebo up to Week 16 and bimekizumab starting at Week 16 through Week 52.

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

Dosage and administration details:

Participants received placebo administered sc Q4W at pre-specified time intervals.

Arm title	Bimekizumab (BKZ) 320 milligrams (mg) Q4W
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Arm description:

Participants received bimekizumab 320 mg Q4W for 52 weeks.

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

Dosage and administration details:

Bimekizumab 320 mg Q4W was provided at pre-specified time intervals.

Arm title	Ustekinumab (Uste)
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Arm description:

Participants received ustekinumab 45 mg or 90 mg (depending on participants weight) for 52 weeks. Placebo was administered at pre-specified time points to maintain the blinding.

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

Dosage and administration details:

Ustekinumab was provided at Baseline, Week 4 and every 12 weeks thereafter. Participants weighing ≤100kg at Baseline received 45 mg subcutaneous (sc) at each dosing visit, participants weighing >100kg at Baseline received 90 mg sc.

Number of subjects in period 1	Placebo	Bimekizumab (BKZ) 320 milligrams (mg) Q4W	Ustekinumab (Uste)
Started	83	321	163
Completed	74	306	157
Not completed	9	15	6
Adverse event, serious fatal	1	1	1
Consent withdrawn by subject	1	2	1
Adverse event, non-fatal	5	5	2
Non-compliance	-	1	-
Site closed	-	2	-
Lost to follow-up	-	3	-
Lack of efficacy	2	1	-
Protocol deviation	-	-	2

Period 2

Period 2 title	Maintenance Treatment Period (WK 52)
Is this the baseline period?	No
Allocation method	Randomised - controlled
Blinding used	Double blind
Roles blinded	Subject, Investigator, Carer, Assessor

Arms

Are arms mutually exclusive?	Yes
Arm title	Placebo/Bimekizumab 320 mg Q4W

Arm description:

After the 16-week Initial Treatment Period (Initial Period) participants initially randomized to placebo received bimekizumab 320 mg Q4W during the 36-week Maintenance Treatment Period (Maintenance Period).

Arm type	Experimental
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Investigational medicinal product name	Bimekizumab
Investigational medicinal product code	BKZ
Other name	UCB4940
Pharmaceutical forms	Solution for injection in pre-filled syringe
Routes of administration	Subcutaneous use
Dosage and administration details:	
Bimekizumab 320 mg Q4W was provided at pre-specified time intervals.	
Arm title	Bimekizumab 320 mg Q4W/Bimekizumab 320 mg Q4W

Arm description:

After the 16-week Initial Treatment Period participants initially randomized to bimekizumab 320 mg Q4W continued to receive bimekizumab 320 mg Q4W during the 36-week Maintenance Treatment Period.

Arm type	Experimental
Investigational medicinal product name	Bimekizumab
Investigational medicinal product code	BKZ
Other name	UCB4940
Pharmaceutical forms	Solution for injection in pre-filled syringe
Routes of administration	Subcutaneous use
Dosage and administration details:	
Bimekizumab 320 mg Q4W was provided at pre-specified time intervals.	
Arm title	Ustekinumab/Ustekinumab

Arm description:

After the 16-week Initial Treatment Period participants initially randomized to ustekinumab 45 mg or 90 mg (depending on participant weight) continued to receive ustekinumab during the 36-week Maintenance Treatment Period.

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

Dosage and administration details:

Ustekinumab was provided at Baseline, Week 4 and every 12 weeks thereafter. Participants weighing ≤100kg at Baseline received 45mg subcutaneous (sc) at each dosing visit, participants weighing >100kg at Baseline received 90mg sc.

Number of subjects in period 2	Placebo/Bimekizumab 320 mg Q4W	Bimekizumab 320 mg Q4W/Bimekizumab 320 mg Q4W	Ustekinumab/Ustekinumab
Started	74	306	157
Completed	69	283	141
Not completed	5	23	16
Consent withdrawn by subject	1	4	4
Adverse event, non-fatal	3	12	4
Non-compliance	-	1	-
Consent Withdrawn for IMP Not Procedures	-	-	1
Lost to follow-up	-	4	3

Protocol deviation	1	1	-
Lack of efficacy	-	1	4

Baseline characteristics

Reporting groups

Reporting group title	Placebo
Reporting group description:	
Participants received placebo up to Week 16 and bimekizumab starting at Week 16 through Week 52.	
Reporting group title	Bimekizumab (BKZ) 320 milligrams (mg) Q4W
Reporting group description:	
Participants received bimekizumab 320 mg Q4W for 52 weeks.	
Reporting group title	Ustekinumab (Uste)
Reporting group description:	
Participants received ustekinumab 45 mg or 90 mg (depending on participants weight) for 52 weeks. Placebo was administered at pre-specified time points to maintain the blinding.	

Reporting group values	Placebo	Bimekizumab (BKZ) 320 milligrams (mg) Q4W	Ustekinumab (Uste)
Number of subjects	83	321	163
Age Categorical Units: Participants			
<=18 years	0	2	1
Between 18 and 65 years	73	285	144
>=65 years	10	34	18
Age Continuous Units: years			
arithmetic mean	49.7	45.2	46.0
standard deviation	± 13.6	± 14.0	± 13.6
Sex: Female, Male Units: Participants			
Female	23	92	46
Male	60	229	117

Reporting group values	Total		
Number of subjects	567		
Age Categorical Units: Participants			
<=18 years	3		
Between 18 and 65 years	502		
>=65 years	62		
Age Continuous Units: years			
arithmetic mean			
standard deviation	-		
Sex: Female, Male Units: Participants			
Female	161		
Male	406		

End points

End points reporting groups

Reporting group title	Placebo
Reporting group description: Participants received placebo up to Week 16 and bimekizumab starting at Week 16 through Week 52.	
Reporting group title	Bimekizumab (BKZ) 320 milligrams (mg) Q4W
Reporting group description: Participants received bimekizumab 320 mg Q4W for 52 weeks.	
Reporting group title	Ustekinumab (Uste)
Reporting group description: Participants received ustekinumab 45 mg or 90 mg (depending on participants weight) for 52 weeks. Placebo was administered at pre-specified time points to maintain the blinding.	
Reporting group title	Placebo/Bimekizumab 320 mg Q4W
Reporting group description: After the 16-week Initial Treatment Period (Initial Period) participants initially randomized to placebo received bimekizumab 320 mg Q4W during the 36-week Maintenance Treatment Period (Maintenance Period).	
Reporting group title	Bimekizumab 320 mg Q4W/Bimekizumab 320 mg Q4W
Reporting group description: After the 16-week Initial Treatment Period participants initially randomized to bimekizumab 320 mg Q4W continued to receive bimekizumab 320 mg Q4W during the 36-week Maintenance Treatment Period.	
Reporting group title	Ustekinumab/Ustekinumab
Reporting group description: After the 16-week Initial Treatment Period participants initially randomized to ustekinumab 45 mg or 90 mg (depending on participant weight) continued to receive ustekinumab during the 36-week Maintenance Treatment Period.	
Subject analysis set title	Placebo (RS)
Subject analysis set type	Full analysis
Subject analysis set description: Participants received placebo up to Week 16 and bimekizumab 320 mg Q4W starting at Week 16 through Week 52. Participants formed the Randomized Set (RS).	
Subject analysis set title	Bimekizumab 320 mg Q4W (RS)
Subject analysis set type	Full analysis
Subject analysis set description: Participants received bimekizumab 320 mg Q4W for 52 weeks. Participants formed the RS.	
Subject analysis set title	Ustekinumab (RS)
Subject analysis set type	Full analysis
Subject analysis set description: Participants received ustekinumab 45 mg or 90 mg (depending on participants weight) for 52 weeks. Placebo was administered at pre-specified time points to maintain the blinding. Participants formed the RS.	
Subject analysis set title	Placebo Initial Period (SS)
Subject analysis set type	Safety analysis
Subject analysis set description: During the 16-week Initial Treatment Period participants received placebo. Participants formed the Safety Set (SS).	
Subject analysis set title	Bimekizumab 320 mg Q4W Initial Period (SS)
Subject analysis set type	Safety analysis
Subject analysis set description: During the 16-week Initial Treatment Period participants received bimekizumab 320 mg Q4W. Participants formed the SS.	
Subject analysis set title	Ustekinumab Initial Period (SS)

Subject analysis set type	Safety analysis
Subject analysis set description: During the 16-week Initial Treatment Period participants received ustekinumab 45 mg or 90 mg (depending on participants weight). Participants formed the SS.	
Subject analysis set title	Any Bimekizumab 320 mg Q4W (AMS)
Subject analysis set type	Safety analysis
Subject analysis set description: This arm consisted of all participants who received bimekizumab 320 mg Q4W at any time in the study (up to Week 52). It also includes the participants that switched from placebo to bimekizumab 320 mg Q4W after the 16-week Initial Treatment Period. Participants formed the SS.	
Subject analysis set title	Any Ustekinumab (AMS)
Subject analysis set type	Safety analysis
Subject analysis set description: This arm consisted of all participants who received ustekinumab 45 mg or 90 mg (depending on participants weight) at any time in the study (up to Week 52). Participants formed the SS.	
Subject analysis set title	Placebo (SS)
Subject analysis set type	Safety analysis
Subject analysis set description: Participants received placebo up to Week 16 and bimekizumab 320 mg Q4W starting at Week 16 through Week 52. Participants formed the Safety Set (SS).	
Subject analysis set title	Bimekizumab 320 mg Q4W (SS)
Subject analysis set type	Safety analysis
Subject analysis set description: Participants received bimekizumab 320 mg Q4W for 52 weeks. Participants formed the SS.	
Subject analysis set title	Ustekinumab (SS)
Subject analysis set type	Safety analysis
Subject analysis set description: Participants received ustekinumab 45 mg or 90 mg (depending on participants weight) for 52 weeks. Placebo was administered at pre-specified time points to maintain the blinding. Participants formed the SS.	
Subject analysis set title	Placebo/Bimekizumab 320 mg Q4W (MS)
Subject analysis set type	Safety analysis
Subject analysis set description: After the 16-week Initial Treatment Period participants initially randomized to placebo received bimekizumab 320 mg Q4W during the 36-week Maintenance Treatment Period. Participants formed the Maintenance Set (MS).	
Subject analysis set title	Bimekizumab 320 mg Q4W/Bimekizumab 320 mg Q4W (MS)
Subject analysis set type	Safety analysis
Subject analysis set description: After the 16-week Initial Treatment Period participants initially randomized to bimekizumab 320 mg Q4W continued to receive bimekizumab 320 mg Q4W during the 36-week Maintenance Treatment Period. Participants formed the MS.	
Subject analysis set title	Ustekinumab/Ustekinumab (MS)
Subject analysis set type	Safety analysis
Subject analysis set description: After the 16-week Initial Treatment Period participants initially randomized to ustekinumab 45 mg or 90 mg (depending on participants weight) continued to receive ustekinumab 45 mg or 90 mg (depending on participants weight) during the 36-week Maintenance Treatment Period. Participants formed the MS.	

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
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End point description:

The PASI90 response assessments are based on at least 90% improvement in the PASI score from Baseline. This is a scoring system that averages the redness, thickness and scaliness of the psoriatic lesions (on 0-4 scale), and weights the resulting score by the area of skin involved. Body divided into 4

areas: head/arms/trunk to groin/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)-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, 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 min possible PASI score is 0=no disease, the max score is 72=maximal disease. The RS consisted of all randomized study participants.

End point type	Primary
End point timeframe:	
Week 16	

End point values	Placebo (RS)	Bimekizumab 320 mg Q4W (RS)	Ustekinumab (RS)	
Subject group type	Subject analysis set	Subject analysis set	Subject analysis set	
Number of subjects analysed	83	321	163	
Units: percentage of participants				
number (not applicable)	4.8	85.0	49.7	

Statistical analyses

Statistical analysis title	Statistical analysis 1
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Statistical analysis description:

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

Comparison groups	Placebo (RS) v Bimekizumab 320 mg Q4W (RS)
Number of subjects included in analysis	404
Analysis specification	Pre-specified
Analysis type	superiority
P-value	< 0.001 ^[1]
Method	Cochran-Mantel-Haenszel
Parameter estimate	Odds ratio (OR)
Point estimate	99.869
Confidence interval	
level	95 %
sides	2-sided
lower limit	34.02
upper limit	293.175

Notes:

[1] - P-values for the comparison of treatment groups (BKZ 320 mg Q4W vs PBO) were based on the CMH test from the general association.

Statistical analysis title	Statistical analysis 2
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Statistical analysis description:

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

Comparison groups	Bimekizumab 320 mg Q4W (RS) v Ustekinumab (RS)
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Number of subjects included in analysis	484
Analysis specification	Pre-specified
Analysis type	superiority
P-value	< 0.001 [2]
Method	Cochran-Mantel-Haenszel
Parameter estimate	Odds ratio (OR)
Point estimate	6.056
Confidence interval	
level	95 %
sides	2-sided
lower limit	3.874
upper limit	9.466

Notes:

[2] - P-values for the comparison of treatment groups (BKZ 320 mg Q4W vs Ustekinumab) were based on the CMH test from the general association.

Primary: Percentage of participants with an Investigator's Global Assessment (IGA) (Clear or Almost Clear with at least a 2-category improvement from Baseline) response at Week 16

End point title	Percentage of participants with an Investigator's Global Assessment (IGA) (Clear or Almost Clear with at least a 2-category improvement from Baseline) response at Week 16
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End point description:

The Investigator's Global Assessment (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 RS consisted of all randomized study participants.

End point type	Primary
End point timeframe:	
Week 16	

End point values	Placebo (RS)	Bimekizumab 320 mg Q4W (RS)	Ustekinumab (RS)	
Subject group type	Subject analysis set	Subject analysis set	Subject analysis set	
Number of subjects analysed	83	321	163	
Units: percentage of participants				
number (not applicable)	4.8	84.1	53.4	

Statistical analyses

Statistical analysis title	Statistical analysis 1
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Statistical analysis description:

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

Comparison groups	Placebo (RS) v Bimekizumab 320 mg Q4W (RS)
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Number of subjects included in analysis	404
Analysis specification	Pre-specified
Analysis type	superiority
P-value	< 0.001 ^[3]
Method	Cochran-Mantel-Haenszel
Parameter estimate	Odds ratio (OR)
Point estimate	118.762
Confidence interval	
level	95 %
sides	2-sided
lower limit	36.701
upper limit	384.307

Notes:

[3] - P-values for the comparison of treatment groups (BKZ 320 mg Q4W vs PBO) were based on the CMH test from the general association.

Statistical analysis title	Statistical analysis 2
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Statistical analysis description:

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

Comparison groups	Bimekizumab 320 mg Q4W (RS) v Ustekinumab (RS)
Number of subjects included in analysis	484
Analysis specification	Pre-specified
Analysis type	superiority
P-value	< 0.001 ^[4]
Method	Cochran-Mantel-Haenszel
Parameter estimate	Odds ratio (OR)
Point estimate	4.809
Confidence interval	
level	95 %
sides	2-sided
lower limit	3.096
upper limit	7.47

Notes:

[4] - P-values for the comparison of treatment groups (BKZ 320 mg Q4W vs Ustekinumab) were based on the CMH test from the general association.

Secondary: Percentage of participants with a PASI100 response at Week 16

End point title	Percentage of participants with a PASI100 response at Week 16
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End point description:

The PASI100 response assessments are based on a 100% improvement in the PASI score from Baseline. This is a scoring system that averages the redness, thickness and scaliness of the psoriatic lesions (on a 0-4 scale), and weights the resulting score by the area of skin involved. Body divided into 4 areas: head/arms/trunk to groin/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)-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, 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 min possible PASI score is 0=no disease, the max score is 72=maximal disease. The RS consisted of all randomized study participants.

End point type	Secondary
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End point timeframe:

Week 16

End point values	Placebo (RS)	Bimekizumab 320 mg Q4W (RS)	Ustekinumab (RS)	
Subject group type	Subject analysis set	Subject analysis set	Subject analysis set	
Number of subjects analysed	83	321	163	
Units: percentage of participants				
number (not applicable)	0	58.6	20.9	

Statistical analyses

Statistical analysis title	Statistical analysis 1
Statistical analysis description:	
Odds ratio was calculated using stratified CMH test with region and prior biologic exposure as stratification variables. Logit method was used where CMH test not possible due to very low response.	
Comparison groups	Placebo (RS) v Bimekizumab 320 mg Q4W (RS)
Number of subjects included in analysis	404
Analysis specification	Pre-specified
Analysis type	superiority
P-value	< 0.001 ^[5]
Method	Cochran-Mantel-Haenszel
Parameter estimate	Odds ratio (OR)
Point estimate	25.59
Confidence interval	
level	95 %
sides	2-sided
lower limit	9.063
upper limit	72.253

Notes:

[5] - P-values for the comparison of treatment groups (BKZ 320 mg Q4W vs PBO) were based on the CMH test from the general association.

Secondary: Percentage of participants with an IGA 0 response at Week 16

End point title	Percentage of participants with an IGA 0 response at Week 16
End point description:	
The Investigator's Global Assessment (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 16. The RS consisted of all randomized study participants.	
End point type	Secondary
End point timeframe:	
Week 16	

End point values	Placebo (RS)	Bimekizumab 320 mg Q4W (RS)	Ustekinumab (RS)	
Subject group type	Subject analysis set	Subject analysis set	Subject analysis set	
Number of subjects analysed	83	321	163	
Units: percentage of participants				
number (not applicable)	0	58.6	22.1	

Statistical analyses

Statistical analysis title	Statistical analysis 1
Statistical analysis description:	
Odds ratio was calculated using stratified CMH test with region and prior biologic exposure as stratification variables. Logit method was used where CMH test not possible due to very low response.	
Comparison groups	Placebo (RS) v Bimekizumab 320 mg Q4W (RS)
Number of subjects included in analysis	404
Analysis specification	Pre-specified
Analysis type	superiority
P-value	< 0.001 ^[6]
Method	Cochran-Mantel-Haenszel
Parameter estimate	Odds ratio (OR)
Point estimate	25.471
Confidence interval	
level	95 %
sides	2-sided
lower limit	9.02
upper limit	71.925

Notes:

[6] - P-values for the comparison of treatment groups (BKZ 320 mg Q4W vs PBO) 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. This is a scoring system that averages the redness, thickness and scaliness of the psoriatic lesions (on a 0-4 scale) and weights the resulting score by the area of skin involved. Body divided into 4 areas: head/arms/trunk to groin/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)-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, 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 min possible PASI score is 0=no disease, the max score is 72=maximal disease. The RS consisted of all randomized study participants.	
End point type	Secondary
End point timeframe:	
Week 4	

End point values	Placebo (RS)	Bimekizumab 320 mg Q4W (RS)	Ustekinumab (RS)	
Subject group type	Subject analysis set	Subject analysis set	Subject analysis set	
Number of subjects analysed	83	321	163	
Units: percentage of participants				
number (not applicable)	2.4	76.9	15.3	

Statistical analyses

Statistical analysis title	Statistical analysis 1
Statistical analysis description:	
Odds ratio was calculated using stratified CMH test with region and prior biologic exposure as stratification variables. Logit method was used where CMH test not possible due to very low response.	
Comparison groups	Placebo (RS) v Bimekizumab 320 mg Q4W (RS)
Number of subjects included in analysis	404
Analysis specification	Pre-specified
Analysis type	superiority
P-value	< 0.001 ^[7]
Method	Cochran-Mantel-Haenszel
Parameter estimate	Odds ratio (OR)
Point estimate	123.02
Confidence interval	
level	95 %
sides	2-sided
lower limit	29.394
upper limit	514.862

Notes:

[7] - P-values for the comparison of treatment groups (BKZ 320 mg Q4W vs PBO) were based on the CMH test from the general association.

Statistical analysis title	Statistical analysis 2
Statistical analysis description:	
Odds ratio was calculated using stratified CMH test with region and prior biologic exposure as stratification variables.	
Comparison groups	Bimekizumab 320 mg Q4W (RS) v Ustekinumab (RS)
Number of subjects included in analysis	484
Analysis specification	Pre-specified
Analysis type	superiority
P-value	< 0.001 ^[8]
Method	Cochran-Mantel-Haenszel
Parameter estimate	Odds ratio (OR)
Point estimate	18.202

Confidence interval	
level	95 %
sides	2-sided
lower limit	10.998
upper limit	30.123

Notes:

[8] - P-values for the comparison of treatment groups (BKZ 320 mg Q4W vs Ustekinumab) were based on the CMH test from the general association.

Secondary: Percentage of participants with a Patient Symptom Diary response for pain at Week 16

End point title	Percentage of participants with a Patient Symptom Diary response for pain at Week 16
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End point description:

As PRO measure, the PSD (further published as P-SIM) was used to assess key symptoms relevant to patients with moderate to severe plaque psoriasis. Site staff trained participants on the use of the electronic device used to collect ePRO diary data at Screening, device was then dispensed to the participant for home use until Week 16 Visit. The ePRO diary was completed on daily basis from Screening to Week 16 Visit.

PSD pain item was assessed daily on a numeric rating scale (NRS) from 0 (no pain) to 10 (very severe pain). PSD score for pain at a given visit was an average of daily values over the week prior to the visit. The response was defined as an improvement (decrease) in pain score higher than the prespecified 1.98 response threshold at Week 16. The endpoint was characterized as percentage of participants with PSD pain response.

The RS consisted of all randomized participants. Number of participants analyzed reflect those with Baseline score at or above 1.98 response threshold.

End point type	Secondary
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End point timeframe:

Week 16

End point values	Placebo (RS)	Bimekizumab 320 mg Q4W (RS)	Ustekinumab (RS)	
Subject group type	Subject analysis set	Subject analysis set	Subject analysis set	
Number of subjects analysed	54	229	107	
Units: percentage of participants				
number (not applicable)	16.7	77.3	68.2	

Statistical analyses

Statistical analysis title	Statistical analysis 1
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Statistical analysis description:

Odds ratio was calculated using stratified CMH test with region and prior biologic exposure as stratification variables. Logit method was used where CMH test not possible due to very low response.

Comparison groups	Placebo (RS) v Bimekizumab 320 mg Q4W (RS)
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Number of subjects included in analysis	283
Analysis specification	Pre-specified
Analysis type	superiority
P-value	< 0.001 [9]
Method	Cochran-Mantel-Haenszel
Parameter estimate	Odds ratio (OR)
Point estimate	16.258
Confidence interval	
level	95 %
sides	2-sided
lower limit	7.356
upper limit	35.931

Notes:

[9] - P-values for the comparison of treatment groups (BKZ 320 mg Q4W vs PBO) were based on the CMH test from the general association.

Secondary: Percentage of participants with a Patient Symptom Diary response for itch at Week 16

End point title	Percentage of participants with a Patient Symptom Diary response for itch at Week 16
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End point description:

A PRO measure, the PSD (further published as P-SIM) was used to assess key symptoms relevant to patients with moderate to severe plaque psoriasis. Site staff trained participants on the use of the electronic device used to collect ePRO diary data at Screening, device was then dispensed to participant for home use until Week 16 Visit. The ePRO diary was completed on daily basis from Screening to Week 16 Visit.

PSD itch item was assessed daily on a NRS from 0 (no itch) to 10 (very severe itch). PSD score for itch was an average of daily values over the week prior to the visit. The response was defined as an improvement (decrease) in itch score higher than the prespecified 2.39 response threshold at Week 16. The endpoint was characterized as percentage of participants with a PSD itch response.

The RS consisted of all randomized participants. Number of participants analyzed reflect those with a Baseline score at or above the 2.39 response threshold.

End point type	Secondary
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End point timeframe:

Week 16

End point values	Placebo (RS)	Bimekizumab 320 mg Q4W (RS)	Ustekinumab (RS)	
Subject group type	Subject analysis set	Subject analysis set	Subject analysis set	
Number of subjects analysed	61	244	117	
Units: percentage of participants				
number (not applicable)	13.1	76.6	65.8	

Statistical analyses

Statistical analysis title	Statistical analysis 1
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Statistical analysis description:

Odds ratio was calculated using stratified CMH test with region and prior biologic exposure as stratification variables. Logit method was used where CMH test not possible due to very low response.

Comparison groups	Placebo (RS) v Bimekizumab 320 mg Q4W (RS)
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Number of subjects included in analysis	305
Analysis specification	Pre-specified
Analysis type	superiority
P-value	< 0.001 ^[10]
Method	Cochran-Mantel-Haenszel
Parameter estimate	Odds ratio (OR)
Point estimate	22.279
Confidence interval	
level	95 %
sides	2-sided
lower limit	9.795
upper limit	50.674

Notes:

[10] - P-values for the comparison of treatment groups (BKZ 320 mg Q4W vs PBO) were based on the CMH test from the general association.

Secondary: Percentage of participants with a Patient Symptom Diary response for scaling at Week 16

End point title	Percentage of participants with a Patient Symptom Diary response for scaling at Week 16
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End point description:

As PRO measure, the PSD (further published as P-SIM) was used to assess key symptoms relevant to patients with moderate to severe plaque psoriasis. Site staff trained participants on the use of the electronic device used to collect ePRO diary data at Screening, device was then dispensed to the participant for home use until Week 16 Visit. The ePRO diary was completed on daily basis from Screening to Week 16 Visit.

PSD scaling item was assessed daily on a NRS from 0 (no scaling) to 10 (very severe scaling). PSD score for scaling was an average of daily values over the week prior to the visit. The response was defined as an improvement (decrease) in scaling score higher than the prespecified 2.86 response threshold at Week 16. The endpoint was characterized as percentage of participants with a PSD scaling response. The RS consisted of all randomized participants. Number of participants analyzed reflect those with a Baseline score at or above the 2.86 response threshold.

End point type	Secondary
End point timeframe:	
Week 16	

End point values	Placebo (RS)	Bimekizumab 320 mg Q4W (RS)	Ustekinumab (RS)	
Subject group type	Subject analysis set	Subject analysis set	Subject analysis set	
Number of subjects analysed	63	246	116	
Units: percentage of participants				
number (not applicable)	12.7	78.5	59.5	

Statistical analyses

Statistical analysis title	Statistical analysis 1
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Statistical analysis description:

Odds ratio was calculated using stratified CMH test with region and prior biologic exposure as stratification variables. Logit method was used where CMH test not possible due to very low response.

Comparison groups	Placebo (RS) v Bimekizumab 320 mg Q4W (RS)
Number of subjects included in analysis	309
Analysis specification	Pre-specified
Analysis type	superiority
P-value	< 0.001 ^[11]
Method	Cochran-Mantel-Haenszel
Parameter estimate	Odds ratio (OR)
Point estimate	23.049
Confidence interval	
level	95 %
sides	2-sided
lower limit	10.201
upper limit	52.077

Notes:

[11] - P-values for the comparison of treatment groups (BKZ 320 mg Q4W vs PBO) were based on the CMH test from the general association.

Secondary: Percentage of participants with a Scalp IGA response (Clear or Almost Clear) at Week 16 for participants with scalp psoriasis (PSO) >=2 at Baseline

End point title	Percentage of participants with a Scalp IGA response (Clear or Almost Clear) at Week 16 for participants with scalp psoriasis (PSO) >=2 at Baseline
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End point description:

Only participants with scalp involvement at Baseline completed the scalp IGA. Participants with scalp involvement at Baseline were defined as those with a scalp IGA score >0 at Baseline. Scalp lesions were assessed in terms of clinical signs of redness, thickness, and scaliness using a 5-point scale (0=Clear, 1=Almost Clear, 2=Mild, 3=Moderate, 4= Severe). Scalp IGA 0/1 response at Week 16 was defined as clear (0) or almost clear (1) with at least a 2-category improvement from Baseline to Week 16. The RS consisted of all randomized study participants. Number of participants analyzed reflect those with a Baseline score of at least 2.

End point type	Secondary
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End point timeframe:

Week 16

End point values	Placebo (RS)	Bimekizumab 320 mg Q4W (RS)	Ustekinumab (RS)	
Subject group type	Subject analysis set	Subject analysis set	Subject analysis set	
Number of subjects analysed	72	285	146	
Units: percentage of participants				
number (not applicable)	15.3	84.2	70.5	

Statistical analyses

Statistical analysis title	Statistical analysis 1
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Statistical analysis description:

Odds ratio was calculated using stratified CMH test with region and prior biologic exposure as stratification variables. Logit method was used where CMH test not possible due to very low response.

Comparison groups	Placebo (RS) v Bimekizumab 320 mg Q4W (RS)
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Number of subjects included in analysis	357
Analysis specification	Pre-specified
Analysis type	superiority
P-value	< 0.001 ^[12]
Method	Cochran-Mantel-Haenszel
Parameter estimate	Odds ratio (OR)
Point estimate	37.696
Confidence interval	
level	95 %
sides	2-sided
lower limit	16.92
upper limit	83.987

Notes:

[12] - P-values for the comparison of treatment groups (BKZ 320 mg Q4W vs PBO) were based on the CMH test from the general association.

Secondary: Percentage of participants with a PASI90 response at Week 12

End point title	Percentage of participants with a PASI90 response at Week 12
End point description:	
The PASI90 response assessments are based on at least 90% improvement in the PASI score from Baseline. This is a scoring system that averages the redness, thickness and scaliness of the psoriatic lesions (on a 0-4 scale) and weights the resulting score by the area of skin involved. Body divided into 4 areas: head/arms/trunk to groin/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)-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, 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 min possible PASI score is 0=no disease, the max score is 72=maximal disease. The RS consisted of all randomized study participants.	
End point type	Secondary
End point timeframe:	
Week 12	

End point values	Placebo (RS)	Bimekizumab 320 mg Q4W (RS)	Ustekinumab (RS)	
Subject group type	Subject analysis set	Subject analysis set	Subject analysis set	
Number of subjects analysed	83	321	163	
Units: percentage of participants				
number (not applicable)	2.4	85.0	43.6	

Statistical analyses

Statistical analysis title	Statistical analysis 1
Statistical analysis description:	
Odds ratio was calculated using stratified CMH test with region and prior biologic exposure as stratification variables.	
Comparison groups	Bimekizumab 320 mg Q4W (RS) v Ustekinumab (RS)

Number of subjects included in analysis	484
Analysis specification	Pre-specified
Analysis type	superiority
P-value	< 0.001 ^[13]
Method	Cochran-Mantel-Haenszel
Parameter estimate	Odds ratio (OR)
Point estimate	8.047
Confidence interval	
level	95 %
sides	2-sided
lower limit	5.107
upper limit	12.679

Notes:

[13] - P-values for the comparison of treatment groups (BKZ 320 mg Q4W vs Ustekinumab) were based on the CMH test from the general association.

Secondary: Percentage of participants with a PASI90 response at Week 52

End point title	Percentage of participants with a PASI90 response at Week 52
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End point description:

PASI90 response assessments are based on at least 90% improvement in the PASI score from Baseline. This is a scoring system that averages the redness/thickness/scaliness of the psoriatic lesions (0-4 scale) and weights the resulting score by the area of skin involved. Body divided into 4 areas: head/arms/trunk to groin/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. Min possible PASI score is 0=no disease, the max score is 72=maximal disease. The RS consisted of all randomized participants. PBO was provided up to Week 16 and not included in the analysis.

End point type	Secondary
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End point timeframe:

Week 52

End point values	Bimekizumab 320 mg Q4W (RS)	Ustekinumab (RS)		
Subject group type	Subject analysis set	Subject analysis set		
Number of subjects analysed	321	163		
Units: percentage of participants				
number (not applicable)	81.9	55.8		

Statistical analyses

Statistical analysis title	Statistical analysis 1
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Statistical analysis description:

Odds ratio was calculated using stratified CMH test with region and prior biologic exposure as stratification variables.

Comparison groups	Bimekizumab 320 mg Q4W (RS) v Ustekinumab (RS)
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Number of subjects included in analysis	484
Analysis specification	Pre-specified
Analysis type	superiority
P-value	< 0.001 ^[14]
Method	Cochran-Mantel-Haenszel
Parameter estimate	Odds ratio (OR)
Point estimate	3.795
Confidence interval	
level	95 %
sides	2-sided
lower limit	2.442
upper limit	5.899

Notes:

[14] - P-values for the comparison of treatment groups (BKZ 320 mg Q4W vs Ustekinumab) were based on the CMH test from the general association.

Secondary: Percentage of participants with an IGA (Clear or Almost Clear with at least a 2-category improvement from Baseline) response at Week 12

End point title	Percentage of participants with an IGA (Clear or Almost Clear with at least a 2-category improvement from Baseline) response at Week 12
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End point description:

The Investigator's Global Assessment (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 12. The RS consisted of all randomized study participants.

End point type	Secondary
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End point timeframe:

Week 12

End point values	Placebo (RS)	Bimekizumab 320 mg Q4W (RS)	Ustekinumab (RS)	
Subject group type	Subject analysis set	Subject analysis set	Subject analysis set	
Number of subjects analysed	83	321	163	
Units: percentage of participants				
number (not applicable)	4.8	81.9	52.1	

Statistical analyses

Statistical analysis title	Statistical analysis 1
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Statistical analysis description:

Odds ratio was calculated using stratified CMH test with region and prior biologic exposure as stratification variables.

Comparison groups	Bimekizumab 320 mg Q4W (RS) v Ustekinumab (RS)
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Number of subjects included in analysis	484
Analysis specification	Pre-specified
Analysis type	superiority
P-value	< 0.001 ^[15]
Method	Cochran-Mantel-Haenszel
Parameter estimate	Odds ratio (OR)
Point estimate	4.379
Confidence interval	
level	95 %
sides	2-sided
lower limit	2.85
upper limit	6.73

Notes:

[15] - P-values for the comparison of treatment groups (BKZ 320 mg Q4W vs Ustekinumab) were based on the CMH test from the general association.

Secondary: Percentage of participants with an IGA (Clear or Almost Clear with at least a 2-category improvement from Baseline) response at Week 52

End point title	Percentage of participants with an IGA (Clear or Almost Clear with at least a 2-category improvement from Baseline) response at Week 52
-----------------	---

End point description:

The Investigator's Global Assessment (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 52. The RS consisted of all randomized study participants. Placebo was only provided up to Week 16 and was not included in this analysis.

End point type	Secondary
End point timeframe:	
Week 52	

End point values	Bimekizumab 320 mg Q4W (RS)	Ustekinumab (RS)		
Subject group type	Subject analysis set	Subject analysis set		
Number of subjects analysed	321	163		
Units: percentage of participants				
number (not applicable)	78.2	60.7		

Statistical analyses

Statistical analysis title	Statistical analysis 1
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Statistical analysis description:

Odds ratio was calculated using stratified CMH test with region and prior biologic exposure as stratification variables.

Comparison groups	Bimekizumab 320 mg Q4W (RS) v Ustekinumab (RS)
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Number of subjects included in analysis	484
Analysis specification	Pre-specified
Analysis type	superiority
P-value	< 0.001 ^[16]
Method	Cochran-Mantel-Haenszel
Parameter estimate	Odds ratio (OR)
Point estimate	2.412
Confidence interval	
level	95 %
sides	2-sided
lower limit	1.573
upper limit	3.699

Notes:

[16] - P-values for the comparison of treatment groups (BKZ 320 mg Q4W vs Ustekinumab) were based on the CMH test from the general association.

Secondary: Number of Treatment Emergent Adverse Events (TEAEs) adjusted by duration of subject exposure to study treatment during the Initial Treatment Period

End point title	Number of Treatment Emergent Adverse Events (TEAEs) adjusted by duration of subject exposure to study treatment during the Initial Treatment Period
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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 Adverse Event (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
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End point timeframe:

From Baseline to end of Initial Treatment Period, including the Safety Follow-Up visit for those withdrawn from IMP (up to 36 weeks)

End point values	Placebo (SS)	Bimekizumab 320 mg Q4W (SS)	Ustekinumab (SS)	
Subject group type	Subject analysis set	Subject analysis set	Subject analysis set	
Number of subjects analysed	83	321	163	
Units: no. of new events per 100 subject-years				
number (confidence interval 95%)	238.41 (169.53 to 325.91)	287.26 (246.93 to 332.29)	247.62 (197.23 to 306.96)	

Statistical analyses

No statistical analyses for this end point

Secondary: Number of Serious Adverse Events (SAEs) adjusted by duration of subject exposure to study treatment during the Initial Treatment Period

End point title	Number of Serious Adverse Events (SAEs) adjusted by duration of subject exposure to study treatment during the Initial
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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 end of Initial Treatment Period, including the Safety Follow-Up visit for those withdrawn from IMP (up to 36 weeks)

End point values	Placebo (SS)	Bimekizumab 320 mg Q4W (SS)	Ustekinumab (SS)	
Subject group type	Subject analysis set	Subject analysis set	Subject analysis set	
Number of subjects analysed	83	321	163	
Units: no. of new events per 100 subject-years				
number (confidence interval 95%)	7.97 (0.97 to 28.80)	5.06 (1.64 to 11.80)	10.14 (3.29 to 23.66)	

Statistical analyses

No statistical analyses for this end point

Secondary: Number of TEAEs leading to withdrawal adjusted by duration of subject exposure to study treatment during the Initial Treatment Period

End point title	Number of TEAEs leading to withdrawal adjusted by duration of subject exposure to study treatment during the Initial Treatment Period
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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 end of Initial Treatment Period, including the Safety Follow-Up visit for those withdrawn from IMP (up to 36 weeks)

End point values	Placebo (SS)	Bimekizumab 320 mg Q4W (SS)	Ustekinumab (SS)	
Subject group type	Subject analysis set	Subject analysis set	Subject analysis set	
Number of subjects analysed	83	321	163	
Units: no. of new events per 100 subject-years				

number (confidence interval 95%)	24.39 (8.95 to 53.09)	6.08 (2.23 to 13.24)	5.99 (1.24 to 17.52)	
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Statistical analyses

No statistical analyses for this end point

Secondary: Number of Treatment Emergent Adverse Events (TEAEs) adjusted by duration of subject exposure to study treatment during the Maintenance Treatment Period

End point title	Number of Treatment Emergent Adverse Events (TEAEs) adjusted by duration of subject exposure to study treatment during the Maintenance Treatment Period
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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 Adverse Event (AE) being considered. If a participant had no events, the total time at risk was used. The Maintenance Set (MS) consisted of all study participants who had received at least 1 dose of active IMP (bimekizumab or ustekinumab) in the Maintenance Treatment Period.

End point type	Secondary
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End point timeframe:

From Week 16 to Safety Follow-Up (up to 52 weeks duration)

End point values	Placebo/Bimekizumab 320 mg Q4W (MS)	Bimekizumab 320 mg Q4W/Bimekizumab 320 mg Q4W (MS)	Ustekinumab/Ustekinumab (MS)	
Subject group type	Subject analysis set	Subject analysis set	Subject analysis set	
Number of subjects analysed	74	306	157	
Units: no. of new events per 100 subject-years				
number (confidence interval 95%)	149.35 (114.24 to 191.85)	127.84 (111.58 to 145.81)	111.24 (90.80 to 134.91)	

Statistical analyses

No statistical analyses for this end point

Secondary: Number of Serious Adverse Events (SAEs) adjusted by duration of subject exposure to study treatment during the Maintenance Treatment Period

End point title	Number of Serious Adverse Events (SAEs) adjusted by duration of subject exposure to study treatment during the Maintenance Treatment Period
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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 Maintenance Set (MS) consisted of all study participants who had received at least 1 dose of active IMP (bimekizumab or ustekinumab) in the Maintenance Treatment Period.

End point type	Secondary
End point timeframe:	
From Week 16 to Safety Follow-Up (up to 52 weeks duration)	

End point values	Placebo/Bimekizumab 320 mg Q4W (MS)	Bimekizumab 320 mg Q4W/Bimekizumab 320 mg Q4W (MS)	Ustekinumab/Ustekinumab (MS)	
Subject group type	Subject analysis set	Subject analysis set	Subject analysis set	
Number of subjects analysed	74	306	157	
Units: no. of new events per 100 subject-years				
number (confidence interval 95%)	9.88 (3.21 to 23.05)	6.19 (3.30 to 10.58)	7.46 (3.22 to 14.70)	

Statistical analyses

No statistical analyses for this end point

Secondary: Number of TEAEs leading to withdrawal adjusted by duration of subject exposure to study treatment during the Maintenance Treatment Period

End point title	Number of TEAEs leading to withdrawal adjusted by duration of subject exposure to study treatment during the Maintenance Treatment Period
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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 Maintenance Set (MS) consisted of all study participants who had received at least 1 dose of active IMP (bimekizumab or ustekinumab) in the Maintenance Treatment Period.

End point type	Secondary
End point timeframe:	
From Week 16 to Safety Follow-Up (up to 52 weeks duration)	

End point values	Placebo/Bimekizumab 320 mg Q4W (MS)	Bimekizumab 320 mg Q4W/Bimekizumab 320 mg Q4W (MS)	Ustekinumab/Ustekinumab (MS)	
Subject group type	Subject analysis set	Subject analysis set	Subject analysis set	
Number of subjects analysed	74	306	157	
Units: no. of new events per 100 subject-years				

number (confidence interval 95%)	5.91 (1.22 to 17.27)	5.72 (2.95 to 9.99)	3.71 (1.01 to 9.51)	
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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 (up to Week 68)

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 the 20-week Safety Follow-Up [SFU] Period). Deaths in Any bimekizumab 320 mg Q4W arm occurred in the Initial Period (1 in placebo/ 1 in bimekizumab 320 mg Q4W).

Assessment type	Non-systematic
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Dictionary used

Dictionary name	MedDRA
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Dictionary version	19.0
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Reporting groups

Reporting group title	Placebo Initial Period (SS)
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Reporting group description:

During the 16-week Initial Treatment Period participants received placebo. Participants formed the Safety Set (SS).

Reporting group title	Bimekizumab 320 mg Q4W Initial Period (SS)
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Reporting group description:

During the 16-week Initial Treatment Period participants received bimekizumab 320 mg Q4W. Participants formed the SS.

Reporting group title	Ustekinumab Initial Period (SS)
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Reporting group description:

During the 16-week Initial Treatment Period participants received ustekinumab 45 mg or 90 mg (depending on participants weight). Participants formed the SS.

Reporting group title	Any Bimekizumab 320 mg Q4W (AMS)
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Reporting group description:

This arm consisted of all participants who received bimekizumab 320 mg Q4W at any time in the study (up to Week 52). It also includes the participants that switched from placebo to bimekizumab 320 mg Q4W after the 16-week Initial Treatment Period. Participants formed the SS.

Reporting group title	Any Ustekinumab (AMS)
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Reporting group description:

This arm consisted of all participants who received ustekinumab 45 mg or 90 mg (depending on participants weight) at any time in the study (up to Week 52). Participants formed the SS.

Serious adverse events	Placebo Initial Period (SS)	Bimekizumab 320 mg Q4W Initial Period (SS)	Ustekinumab Initial Period (SS)
Total subjects affected by serious adverse events			
subjects affected / exposed	2 / 83 (2.41%)	5 / 321 (1.56%)	5 / 163 (3.07%)
number of deaths (all causes)	1	1	1
number of deaths resulting from adverse events	0	0	0
Neoplasms benign, malignant and unspecified (incl cysts and polyps)			
Oesophageal adenocarcinoma			

subjects affected / exposed	1 / 83 (1.20%)	0 / 321 (0.00%)	0 / 163 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 1	0 / 0	0 / 0
Gastric cancer			
subjects affected / exposed	0 / 83 (0.00%)	0 / 321 (0.00%)	0 / 163 (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
Thyroid adenoma			
subjects affected / exposed	0 / 83 (0.00%)	0 / 321 (0.00%)	0 / 163 (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
Surgical and medical procedures			
Metabolic surgery			
subjects affected / exposed	0 / 83 (0.00%)	0 / 321 (0.00%)	0 / 163 (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			
Haemorrhage in pregnancy			
subjects affected / exposed	0 / 83 (0.00%)	0 / 321 (0.00%)	0 / 163 (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
General disorders and administration site conditions			
Death			
subjects affected / exposed	0 / 83 (0.00%)	0 / 321 (0.00%)	0 / 163 (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
Respiratory, thoracic and mediastinal disorders			
Epistaxis			
subjects affected / exposed	0 / 83 (0.00%)	0 / 321 (0.00%)	0 / 163 (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
Psychiatric disorders			
Alcoholism			

subjects affected / exposed	0 / 83 (0.00%)	0 / 321 (0.00%)	0 / 163 (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
Suicide attempt			
subjects affected / exposed	0 / 83 (0.00%)	0 / 321 (0.00%)	0 / 163 (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
Investigations			
Liver function test increased			
subjects affected / exposed	0 / 83 (0.00%)	0 / 321 (0.00%)	0 / 163 (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
False positive tuberculosis test			
subjects affected / exposed	0 / 83 (0.00%)	0 / 321 (0.00%)	0 / 163 (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			
Heart injury			
subjects affected / exposed	0 / 83 (0.00%)	0 / 321 (0.00%)	1 / 163 (0.61%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 1
Tendon injury			
subjects affected / exposed	1 / 83 (1.20%)	0 / 321 (0.00%)	0 / 163 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Toxicity to various agents			
subjects affected / exposed	1 / 83 (1.20%)	0 / 321 (0.00%)	0 / 163 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Humerus fracture			
subjects affected / exposed	0 / 83 (0.00%)	0 / 321 (0.00%)	0 / 163 (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

Tibia fracture			
subjects affected / exposed	0 / 83 (0.00%)	0 / 321 (0.00%)	0 / 163 (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
Upper limb fracture			
subjects affected / exposed	0 / 83 (0.00%)	0 / 321 (0.00%)	0 / 163 (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			
Acute myocardial infarction			
subjects affected / exposed	0 / 83 (0.00%)	1 / 321 (0.31%)	0 / 163 (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
Cardiac arrest			
subjects affected / exposed	0 / 83 (0.00%)	1 / 321 (0.31%)	1 / 163 (0.61%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 1	0 / 1
Myocardial infarction			
subjects affected / exposed	0 / 83 (0.00%)	0 / 321 (0.00%)	0 / 163 (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			
Intracranial aneurysm			
subjects affected / exposed	0 / 83 (0.00%)	1 / 321 (0.31%)	0 / 163 (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
Brain injury			
subjects affected / exposed	0 / 83 (0.00%)	0 / 321 (0.00%)	1 / 163 (0.61%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 1
Cerebral infarction			
subjects affected / exposed	0 / 83 (0.00%)	0 / 321 (0.00%)	0 / 163 (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

Hydrocephalus			
subjects affected / exposed	0 / 83 (0.00%)	0 / 321 (0.00%)	0 / 163 (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
Vocal cord paresis			
subjects affected / exposed	0 / 83 (0.00%)	0 / 321 (0.00%)	0 / 163 (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			
Macular hole			
subjects affected / exposed	0 / 83 (0.00%)	0 / 321 (0.00%)	1 / 163 (0.61%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Gastrointestinal disorders			
Haemorrhoids			
subjects affected / exposed	0 / 83 (0.00%)	0 / 321 (0.00%)	0 / 163 (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
Colitis ulcerative			
subjects affected / exposed	0 / 83 (0.00%)	1 / 321 (0.31%)	0 / 163 (0.00%)
occurrences causally related to treatment / all	0 / 0	1 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Skin and subcutaneous tissue disorders			
Psoriasis			
subjects affected / exposed	0 / 83 (0.00%)	0 / 321 (0.00%)	0 / 163 (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
Musculoskeletal and connective tissue disorders			
Osteochondrosis			
subjects affected / exposed	0 / 83 (0.00%)	1 / 321 (0.31%)	0 / 163 (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
Intervertebral disc protrusion			

subjects affected / exposed	0 / 83 (0.00%)	0 / 321 (0.00%)	1 / 163 (0.61%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Facet joint syndrome			
subjects affected / exposed	0 / 83 (0.00%)	1 / 321 (0.31%)	0 / 163 (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
Arthritis			
subjects affected / exposed	0 / 83 (0.00%)	0 / 321 (0.00%)	0 / 163 (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
Spinal column stenosis			
subjects affected / exposed	0 / 83 (0.00%)	0 / 321 (0.00%)	0 / 163 (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
Infections and infestations			
Wound infection			
subjects affected / exposed	0 / 83 (0.00%)	0 / 321 (0.00%)	1 / 163 (0.61%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Urinary tract infection			
subjects affected / exposed	0 / 83 (0.00%)	0 / 321 (0.00%)	1 / 163 (0.61%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Gastroenteritis			
subjects affected / exposed	0 / 83 (0.00%)	0 / 321 (0.00%)	0 / 163 (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
Oesophageal candidiasis			
subjects affected / exposed	0 / 83 (0.00%)	0 / 321 (0.00%)	0 / 163 (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
Mastoiditis			

subjects affected / exposed	0 / 83 (0.00%)	0 / 321 (0.00%)	0 / 163 (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
Otitis externa			
subjects affected / exposed	0 / 83 (0.00%)	0 / 321 (0.00%)	0 / 163 (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
Otitis media acute			
subjects affected / exposed	0 / 83 (0.00%)	0 / 321 (0.00%)	0 / 163 (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
Pneumonia			
subjects affected / exposed	0 / 83 (0.00%)	0 / 321 (0.00%)	0 / 163 (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
Infective tenosynovitis			
subjects affected / exposed	0 / 83 (0.00%)	0 / 321 (0.00%)	0 / 163 (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
Necrotising fasciitis			
subjects affected / exposed	0 / 83 (0.00%)	0 / 321 (0.00%)	0 / 163 (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
Subglottic laryngitis			
subjects affected / exposed	0 / 83 (0.00%)	0 / 321 (0.00%)	0 / 163 (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			
subjects affected / exposed	0 / 83 (0.00%)	0 / 321 (0.00%)	0 / 163 (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	Any Ustekinumab	
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	320 mg Q4W (AMS)	(AMS)	
Total subjects affected by serious adverse events			
subjects affected / exposed	24 / 395 (6.08%)	13 / 163 (7.98%)	
number of deaths (all causes)	2	1	
number of deaths resulting from adverse events	0	0	
Neoplasms benign, malignant and unspecified (incl cysts and polyps)			
Oesophageal adenocarcinoma			
subjects affected / exposed	0 / 395 (0.00%)	0 / 163 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Gastric cancer			
subjects affected / exposed	1 / 395 (0.25%)	0 / 163 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Thyroid adenoma			
subjects affected / exposed	0 / 395 (0.00%)	1 / 163 (0.61%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Surgical and medical procedures			
Metabolic surgery			
subjects affected / exposed	1 / 395 (0.25%)	0 / 163 (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			
Haemorrhage in pregnancy			
subjects affected / exposed	1 / 395 (0.25%)	0 / 163 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
General disorders and administration site conditions			
Death			
subjects affected / exposed	1 / 395 (0.25%)	0 / 163 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 1	0 / 0	
Respiratory, thoracic and mediastinal disorders			

Epistaxis			
subjects affected / exposed	1 / 395 (0.25%)	0 / 163 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Psychiatric disorders			
Alcoholism			
subjects affected / exposed	1 / 395 (0.25%)	0 / 163 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Suicide attempt			
subjects affected / exposed	0 / 395 (0.00%)	1 / 163 (0.61%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Investigations			
Liver function test increased			
subjects affected / exposed	1 / 395 (0.25%)	0 / 163 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
False positive tuberculosis test			
subjects affected / exposed	1 / 395 (0.25%)	0 / 163 (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			
Heart injury			
subjects affected / exposed	0 / 395 (0.00%)	1 / 163 (0.61%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 1	
Tendon injury			
subjects affected / exposed	0 / 395 (0.00%)	0 / 163 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Toxicity to various agents			

subjects affected / exposed	0 / 395 (0.00%)	0 / 163 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Humerus fracture			
subjects affected / exposed	1 / 395 (0.25%)	0 / 163 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Tibia fracture			
subjects affected / exposed	0 / 395 (0.00%)	1 / 163 (0.61%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Upper limb fracture			
subjects affected / exposed	1 / 395 (0.25%)	0 / 163 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Cardiac disorders			
Acute myocardial infarction			
subjects affected / exposed	2 / 395 (0.51%)	0 / 163 (0.00%)	
occurrences causally related to treatment / all	0 / 2	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Cardiac arrest			
subjects affected / exposed	1 / 395 (0.25%)	1 / 163 (0.61%)	
occurrences causally related to treatment / all	0 / 1	0 / 1	
deaths causally related to treatment / all	0 / 1	0 / 1	
Myocardial infarction			
subjects affected / exposed	2 / 395 (0.51%)	0 / 163 (0.00%)	
occurrences causally related to treatment / all	0 / 2	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Nervous system disorders			
Intracranial aneurysm			
subjects affected / exposed	1 / 395 (0.25%)	0 / 163 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Brain injury			

subjects affected / exposed	0 / 395 (0.00%)	1 / 163 (0.61%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 1	
Cerebral infarction			
subjects affected / exposed	1 / 395 (0.25%)	0 / 163 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Hydrocephalus			
subjects affected / exposed	0 / 395 (0.00%)	1 / 163 (0.61%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Vocal cord paresis			
subjects affected / exposed	1 / 395 (0.25%)	0 / 163 (0.00%)	
occurrences causally related to treatment / all	1 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Eye disorders			
Macular hole			
subjects affected / exposed	0 / 395 (0.00%)	1 / 163 (0.61%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Gastrointestinal disorders			
Haemorrhoids			
subjects affected / exposed	0 / 395 (0.00%)	1 / 163 (0.61%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Colitis ulcerative			
subjects affected / exposed	1 / 395 (0.25%)	0 / 163 (0.00%)	
occurrences causally related to treatment / all	1 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Skin and subcutaneous tissue disorders			
Psoriasis			
subjects affected / exposed	1 / 395 (0.25%)	0 / 163 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	

Musculoskeletal and connective tissue disorders			
Osteochondrosis			
subjects affected / exposed	1 / 395 (0.25%)	0 / 163 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Intervertebral disc protrusion			
subjects affected / exposed	0 / 395 (0.00%)	1 / 163 (0.61%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Facet joint syndrome			
subjects affected / exposed	1 / 395 (0.25%)	0 / 163 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Arthritis			
subjects affected / exposed	0 / 395 (0.00%)	1 / 163 (0.61%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Spinal column stenosis			
subjects affected / exposed	1 / 395 (0.25%)	0 / 163 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Infections and infestations			
Wound infection			
subjects affected / exposed	0 / 395 (0.00%)	1 / 163 (0.61%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Urinary tract infection			
subjects affected / exposed	0 / 395 (0.00%)	1 / 163 (0.61%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Gastroenteritis			
subjects affected / exposed	1 / 395 (0.25%)	0 / 163 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	

Oesophageal candidiasis			
subjects affected / exposed	1 / 395 (0.25%)	0 / 163 (0.00%)	
occurrences causally related to treatment / all	1 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Mastoiditis			
subjects affected / exposed	0 / 395 (0.00%)	1 / 163 (0.61%)	
occurrences causally related to treatment / all	0 / 0	1 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Otitis externa			
subjects affected / exposed	0 / 395 (0.00%)	1 / 163 (0.61%)	
occurrences causally related to treatment / all	0 / 0	1 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Otitis media acute			
subjects affected / exposed	0 / 395 (0.00%)	1 / 163 (0.61%)	
occurrences causally related to treatment / all	0 / 0	1 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Pneumonia			
subjects affected / exposed	0 / 395 (0.00%)	1 / 163 (0.61%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Infective tenosynovitis			
subjects affected / exposed	1 / 395 (0.25%)	0 / 163 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Necrotising fasciitis			
subjects affected / exposed	1 / 395 (0.25%)	0 / 163 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Subglottic laryngitis			
subjects affected / exposed	1 / 395 (0.25%)	0 / 163 (0.00%)	
occurrences causally related to treatment / all	1 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Metabolism and nutrition disorders			

Diabetes mellitus			
subjects affected / exposed	0 / 395 (0.00%)	1 / 163 (0.61%)	
occurrences causally related to treatment / all	0 / 0	1 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	

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

Non-serious adverse events	Placebo Initial Period (SS)	Bimekizumab 320 mg Q4W Initial Period (SS)	Ustekinumab Initial Period (SS)
Total subjects affected by non-serious adverse events			
subjects affected / exposed	17 / 83 (20.48%)	87 / 321 (27.10%)	37 / 163 (22.70%)
Vascular disorders			
Hypertension			
subjects affected / exposed	1 / 83 (1.20%)	7 / 321 (2.18%)	5 / 163 (3.07%)
occurrences (all)	1	7	5
Nervous system disorders			
Headache			
subjects affected / exposed	0 / 83 (0.00%)	11 / 321 (3.43%)	7 / 163 (4.29%)
occurrences (all)	0	11	10
Skin and subcutaneous tissue disorders			
Psoriasis			
subjects affected / exposed	5 / 83 (6.02%)	3 / 321 (0.93%)	2 / 163 (1.23%)
occurrences (all)	5	4	2
Musculoskeletal and connective tissue disorders			
Back pain			
subjects affected / exposed	2 / 83 (2.41%)	3 / 321 (0.93%)	4 / 163 (2.45%)
occurrences (all)	2	3	4
Infections and infestations			
Nasopharyngitis			
subjects affected / exposed	7 / 83 (8.43%)	30 / 321 (9.35%)	14 / 163 (8.59%)
occurrences (all)	8	35	15
Oral candidiasis			
subjects affected / exposed	0 / 83 (0.00%)	28 / 321 (8.72%)	0 / 163 (0.00%)
occurrences (all)	0	30	0
Upper respiratory tract infection			
subjects affected / exposed	2 / 83 (2.41%)	9 / 321 (2.80%)	5 / 163 (3.07%)
occurrences (all)	2	9	6

Urinary tract infection subjects affected / exposed occurrences (all)	5 / 83 (6.02%) 5	6 / 321 (1.87%) 6	1 / 163 (0.61%) 1
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Non-serious adverse events	Any Bimekizumab 320 mg Q4W (AMS)	Any Ustekinumab (AMS)	
Total subjects affected by non-serious adverse events subjects affected / exposed	192 / 395 (48.61%)	73 / 163 (44.79%)	
Vascular disorders Hypertension subjects affected / exposed occurrences (all)	14 / 395 (3.54%) 14	10 / 163 (6.13%) 11	
Nervous system disorders Headache subjects affected / exposed occurrences (all)	16 / 395 (4.05%) 17	10 / 163 (6.13%) 14	
Skin and subcutaneous tissue disorders Psoriasis subjects affected / exposed occurrences (all)	9 / 395 (2.28%) 11	2 / 163 (1.23%) 2	
Musculoskeletal and connective tissue disorders Back pain subjects affected / exposed occurrences (all)	10 / 395 (2.53%) 10	9 / 163 (5.52%) 10	
Infections and infestations Nasopharyngitis subjects affected / exposed occurrences (all)	86 / 395 (21.77%) 121	36 / 163 (22.09%) 53	
Oral candidiasis subjects affected / exposed occurrences (all)	60 / 395 (15.19%) 98	1 / 163 (0.61%) 1	
Upper respiratory tract infection subjects affected / exposed occurrences (all)	36 / 395 (9.11%) 48	18 / 163 (11.04%) 22	
Urinary tract infection subjects affected / exposed occurrences (all)	12 / 395 (3.04%) 14	6 / 163 (3.68%) 7	

More information

Substantial protocol amendments (globally)

Were there any global substantial amendments to the protocol? Yes

Date	Amendment
06 April 2018	Protocol Amendment 3 (06 Apr 2018) included the following modifications: -Update name and contact information for Sponsor study physician -Extend the duration of the Screening Period, and therefore the overall study duration, by 1 week -Update list of current treatment for psoriasis to reflect changes in labeling and approved countries -Update list of completed and ongoing bimekizumab studies to reflect completion of study UP0042 -Clarify calculation of Psoriasis Area Severity Index responder rates -Remove references to pharmacodynamics assessments as they will not be conducted in this study -Update Schedule of study assessments to include a hematology and biochemistry sample at Week 20, to modify the visits at which the tuberculosis questionnaire, body weight, physical examination, and electrocardiogram are assessed, and to modify the visits at which photographs are taken -Clarify 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 -Clarify the dosing window -Modify exclusion criterion to clarify exclusion of subjects who have participated in other studies of bimekizumab, other medications (systemic or topical), or devices -Modify exclusion criteria pertaining to history of malignancy, systemic disease, and major depression -Add new withdrawal criteria for nonresponders and for subjects with newly diagnosed inflammatory bowel disease -Clarify withdrawal criteria for subjects with depression or suicidal ideation or behavior
06 April 2018	Continuation of Protocol Amendment 3 -Clarify that for subjects receiving ustekinumab, dosing is based on weight at Baseline -Update prohibited concomitant medications to include tildrakizumab and risankizumab -Corrected discrepancies between Section 8 Study procedures by visit and Schedule of study assessments -Revise Psoriatic Arthritis Screening and Evaluation questionnaire scoring -Remove immunophenotyping assessments -Clarify photography requirements -Clarify definition of abortion -Updated laboratory measurements to be performed -Provide additional details for requirements for investigational medicinal product rechallenge in the event of potential drug-induced liver injury -Defined a Maintenance Set as an analysis population -Update the definition of the Full Analysis Set -Clarify regions for analyses -Update the sequence testing 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