Clinical trial results:
A randomized, multicenter 28 week study to compare the efficacy and safety of combining Cosentyx (Secukinumab) (4-weekly, 300 mg s.c.) with a lifestyle intervention to Cosentyx therapy alone in adult patients with moderate to severe plaque-type psoriasis and concomitant metabolic syndrome, followed by a 28 week extension period

Summary

EudraCT number	2016-001671-79
Trial protocol	DE
Global end of trial date	03 June 2022

Results information

Result version number	v1
This version publication date	02 June 2023
First version publication date	02 June 2023

Trial information

Trial identification

Sponsor protocol code	CAIN457ADE08

Additional study identifiers

ISRCTN number	-
ClinicalTrials.gov id (NCT number)	NCT03440736
WHO universal trial number (UTN)	-

Notes:

Sponsors

Sponsor organisation name	Novartis Pharma AG
Sponsor organisation address	Novartis Campus, Basel, Switzerland,
Public contact	Clinical Disclosure Office, Novartis Pharma AG, 41 613241111, Novartis.email@Novartis.com
Scientific contact	Clinical Disclosure Office, Novartis Pharma AG, 41 613241111, Novartis.email@Novartis.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	03 June 2022
Is this the analysis of the primary completion data?	No

Global end of trial reached?	Yes
Global end of trial date	03 June 2022
Was the trial ended prematurely?	No

Notes:

General information about the trial

Main objective of the trial:

The primary objective of the Core Study was to demonstrate that the combination of Secukinumab (300 mg, 4-weekly s.c.) with lifestyle intervention results in higher psoriasis treatment efficacy than Secukinumab alone in psoriasis patients with concomitant metabolic syndrome.

Protection of trial subjects:

The study was in compliance with the ethical principles derived from the Declaration of Helsinki and the International Conference on Harmonization (ICH) Good Clinical Practice (GCP) guidelines. All the local regulatory requirements pertinent to safety of trial subjects were also followed during the conduct of the trial.

Background therapy: -

Evidence for comparator: -

Actual start date of recruitment	28 February 2018
Long term follow-up planned	No
Independent data monitoring committee (IDMC) involvement?	No

Notes:

Population of trial subjects

Subjects enrolled per country

Country: Number of subjects enrolled	Germany: 781
Worldwide total number of subjects	781
EEA total number of subjects	781

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)	673
From 65 to 84 years	107
85 years and over	1

Subject disposition

Recruitment

Recruitment details:

This study was conducted at 81 centers in Germany.

Pre-assignment

Screening details:

Patients were screened for eligibility for a period of 1 to 4 weeks prior to inclusion in the study.

Period 1

Period 1 title	Overall Study (overall period)
Is this the baseline period?	Yes
Allocation method	Randomised - controlled
Blinding used	Not blinded

Arms

Are arms mutually exclusive?	Yes
Arm title	Secukinumab 300 mg subcutaneous (s.c.)

Arm description:

Patients received therapy with Secukinumab 300 mg s.c., which consisted of two injections with 150 mg prefilled syringes at weeks 0, 1, 2, 3, 4, 8, 12, 16, 20 and 24 (last injection was performed at week 24).

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

Dosage and administration details:

Secukinumab 300 mg s.c., which consisted of two injections with 150 mg prefilled syringes at weeks 0, 1, 2, 3, 4, 8, 12, 16, 20 and 24 (last injection was performed at week 24)

Arm title	Secukinumab 300 mg s.c. and lifestyle intervention

Arm description:

Patients received therapy with Secukinumab 300 mg s.c., which consisted of two injections with 150 mg prefilled syringes at weeks 0, 1, 2, 3, 4, 8, 12, 16, 20 and 24 (last injection was performed at week 24). In addition they participated in a lifestyle intervention program.

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

Dosage and administration details:

Secukinumab 300 mg s.c., which consisted of two injections with 150 mg prefilled syringes at weeks 0, 1, 2, 3, 4, 8, 12, 16, 20 and 24 (last injection was performed at week 24)

Number of subjects in period 1[1]	Secukinumab 300 mg subcutaneous (s.c.)	Secukinumab 300 mg s.c. and lifestyle intervention
Started	371	409
Full Analysis Set (FAS)	371	409
Safety Set (SAF)	371	409
Completed	342	374
Not completed	29	35
Physician decision	2	2
Consent withdrawn by subject	9	10
Adverse event, non-fatal	8	7
Non-compliance with study treatment	1	1
Lost to follow-up	2	8
Subject discontinued the study due to emergency	1	-
Lack of efficacy	2	3
Protocol deviation	4	4

Notes:

[1] - The number of subjects reported to be in the baseline period are not the same as the worldwide number enrolled in the trial. It is expected that these numbers will be the same.
Justification: One participant in the Secukinumab 300 mg s.c. and lifestyle intervention arm was never treated and was therefore excluded from all analysis (including patient disposition and baseline characteristics)

Baseline characteristics

Reporting groups	
Reporting group title	Secukinumab 300 mg subcutaneous (s.c.)
Reporting group description:	
Patients received therapy with Secukinumab 300 mg s.c., which consisted of two injections with 150 mg prefilled syringes at weeks 0, 1, 2, 3, 4, 8, 12, 16, 20 and 24 (last injection was performed at week 24).	
Reporting group title	Secukinumab 300 mg s.c. and lifestyle intervention
Reporting group description:	
Patients received therapy with Secukinumab 300 mg s.c., which consisted of two injections with 150 mg prefilled syringes at weeks 0, 1, 2, 3, 4, 8, 12, 16, 20 and 24 (last injection was performed at week 24). In addition they participated in a lifestyle intervention program.	

Reporting group values	Secukinumab 300 mg subcutaneous (s.c.)	Secukinumab 300 mg s.c. and lifestyle intervention	Total
Number of subjects	371	409	780
Age categorical Units: Subjects			
In utero	0	0	0
Preterm newborn infants (gestational age < 37 wks)	0	0	0
Newborns (0-27 days)	0	0	0
Infants and toddlers (28 days-23 months)	0	0	0
Children (2-11 years)	0	0	0
Adolescents (12-17 years)	0	0	0
Adults (18-64 years)	313	359	672
From 65-84 years	57	50	107
85 years and over	1	0	1
Age Continuous Units: Years			
arithmetic mean	50.4	50.1	
standard deviation	± 13.29	± 12.48	-
Sex: Female, Male Units: Participants			
Female	105	115	220
Male	266	294	560
Race/Ethnicity, Customized Units: Subjects			
Asian	7	1	8
Caucasian	359	397	756
Black or African American	2	2	4
Other	3	8	11
Unknown	0	1	1

End points

End points reporting groups

Reporting group title	Secukinumab 300 mg subcutaneous (s.c.)
Reporting group description:	
Patients received therapy with Secukinumab 300 mg s.c., which consisted of two injections with 150 mg prefilled syringes at weeks 0, 1, 2, 3, 4, 8, 12, 16, 20 and 24 (last injection was performed at week 24).	
Reporting group title	Secukinumab 300 mg s.c. and lifestyle intervention
Reporting group description:	
Patients received therapy with Secukinumab 300 mg s.c., which consisted of two injections with 150 mg prefilled syringes at weeks 0, 1, 2, 3, 4, 8, 12, 16, 20 and 24 (last injection was performed at week 24). In addition they participated in a lifestyle intervention program.	

Primary: Percentage of patients achieving Psoriasis Area and Severity Index (PASI) Score of 90 at week 28

End point title	Percentage of patients achieving Psoriasis Area and Severity Index (PASI) Score of 90 at week 28
End point description:	
The Psoriasis Area and Severity Index (PASI) is a combined assessment of lesion severity and affected area into a single score: 0 (no disease) to 72 (maximal disease). Body is divided into 4 areas for scoring (head, trunk, upper limbs, lower limbs); each area is scored by itself and scores are combined for final PASI. For each area, percent of skin involved is estimated: 0 (0%) to 6 (90-100%), and severity is estimated by clinical signs, erythema, induration and desquamation; scale 0 (none) to 4 (maximum). Final PASI = sum of severity parameters for each area * area score weight of section (head: 0.1, arms: 0.2 body: 0.3 legs: 0.4). PASI 90 represents patients achieving >= 90% improvement (reduction) in PASI score compared to Baseline. Patients with missing PASI at Week 28 were counted as non-responders.	
End point type	Primary
End point timeframe:	
Baseline, Week 28	

End point values	Secukinumab 300 mg subcutaneous (s.c.)	Secukinumab 300 mg s.c. and lifestyle intervention		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	371	409		
Units: Participants	219	261		

Statistical analyses

Statistical analysis title	PASI 90 at week 28
Statistical analysis description:	
Comparison of mean change between treatments in PASI 90 at week 28	
Comparison groups	Secukinumab 300 mg subcutaneous (s.c.) v Secukinumab 300 mg s.c. and lifestyle intervention

Number of subjects included in analysis	780
Analysis specification	Pre-specified
Analysis type	
P-value	= 0.3857
Method	Regression, Logistic
Parameter estimate	Odds ratio (OR)
Point estimate	1.17
Confidence interval	
level	95 %
sides	2-sided
lower limit	0.82
upper limit	1.67

Secondary: Percentage of patients achieving Psoriasis Area and Severity Index (PASI) Score of 75 over time

End point title	Percentage of patients achieving Psoriasis Area and Severity Index (PASI) Score of 75 over time

End point description:

The Psoriasis Area and Severity Index (PASI) is a combined assessment of lesion severity and affected area into a single score: 0 (no disease) to 72 (maximal disease). Body is divided into 4 areas for scoring (head, trunk, upper limbs, lower limbs); each area is scored by itself and scores are combined for final PASI. For each area, percent of skin involved is estimated: 0 (0%) to 6 (90-100%), and severity is estimated by clinical signs, erythema, induration and desquamation; scale 0 (none) to 4 (maximum). Final PASI = sum of severity parameters for each area * area score weight of section (head: 0.1, arms: 0.2 body: 0.3 legs: 0.4).
PASI 75 represents patients achieving >= 75% improvement (reduction) in PASI score compared to Baseline.

End point type	Secondary

End point timeframe:

Baseline, Week 1, Week 2, Week 3, Week 4, Week 8, Week 12, Week 16, Week 20, Week 24, Week 28

End point values	Secukinumab 300 mg subcutaneous (s.c.)	Secukinumab 300 mg s.c. and lifestyle intervention		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	371	409		
Units: Participants				
Week 1	2	1		
Week 2	11	3		
Week 3	50	56		
Week 4	108	135		
Week 8	239	265		
Week 12	241	276		
Week 16	287	332		
Week 20	290	333		
Week 24	285	333		
Week 28	286	335		

Statistical analyses

Statistical analysis title	PASI 75 at Week 28
Statistical analysis description:	
Comparison of mean change between treatments in PASI 75 at Week 28	
Comparison groups	Secukinumab 300 mg subcutaneous (s.c.) v Secukinumab 300 mg s.c. and lifestyle intervention
Number of subjects included in analysis	780
Analysis specification	Pre-specified
Analysis type	
P-value	= 0.03
Method	Regression, Logistic
Parameter estimate	Odds ratio (OR)
Point estimate	1.8
Confidence interval	
level	95 %
sides	2-sided
lower limit	1.06
upper limit	3.06

Secondary: Percentage of patients achieving Psoriasis Area and Severity Index (PASI) Score of 90 over time

End point title	Percentage of patients achieving Psoriasis Area and Severity Index (PASI) Score of 90 over time

End point description:

The Psoriasis Area and Severity Index (PASI) is a combined assessment of lesion severity and affected area into a single score: 0 (no disease) to 72 (maximal disease). Body is divided into 4 areas for scoring (head, trunk, upper limbs, lower limbs); each area is scored by itself and scores are combined for final PASI. For each area, percent of skin involved is estimated: 0 (0%) to 6 (90-100%), and severity is estimated by clinical signs, erythema, induration and desquamation; scale 0 (none) to 4 (maximum). Final PASI = sum of severity parameters for each area * area score weight of section (head: 0.1, arms: 0.2 body: 0.3 legs: 0.4).
PASI 90 represents patients achieving ≥ 90% improvement (reduction) in PASI score compared to Baseline.

End point type	Secondary

End point timeframe:

Baseline, Week 1, Week 2, Week 3, Week 4, Week 8, Week 12, Week 16, Week 20, Week 24, Week 28

End point values	Secukinumab 300 mg subcutaneous (s.c.)	Secukinumab 300 mg s.c. and lifestyle intervention		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	371	409		
Units: Participants				
Week 1	0	0		
Week 2	2	0		
Week 3	7	4		
Week 4	25	30		
Week 8	130	141		
Week 12	159	182		
Week 16	215	241		
Week 20	217	242		
Week 24	224	251		
Week 28	219	261		

Statistical analyses

No statistical analyses for this end point

Secondary: Percentage of patients achieving Psoriasis Area and Severity Index (PASI) Score of 100 over time

End point title	Percentage of patients achieving Psoriasis Area and Severity Index (PASI) Score of 100 over time

End point description:

The Psoriasis Area and Severity Index (PASI) is a combined assessment of lesion severity and affected area into a single score: 0 (no disease) to 72 (maximal disease). Body is divided into 4 areas for scoring (head, trunk, upper limbs, lower limbs); each area is scored by itself and scores are combined for final PASI. For each area, percent of skin involved is estimated: 0 (0%) to 6 (90-100%), and severity is estimated by clinical signs, erythema, induration and desquamation; scale 0 (none) to 4 (maximum). Final PASI = sum of severity parameters for each area * area score weight of section (head: 0.1, arms: 0.2 body: 0.3 legs: 0.4).
PASI 100 response/remission represents patients achieving complete clearing of psoriasis (PASI = 0) compared to Baseline.

End point type	Secondary

End point timeframe:

Baseline, Week 1, Week 2, Week 3, Week 4, Week 8, Week 12, Week 16, Week 20, Week 24, Week 28

End point values	Secukinumab 300 mg subcutaneous (s.c.)	Secukinumab 300 mg s.c. and lifestyle intervention		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	371	409		
Units: Participants				
Week 1	0	0		
Week 2	1	0		
Week 3	1	0		
Week 4	5	4		

Week 8	35	39		
Week 12	48	71		
Week 16	82	115		
Week 20	100	108		
Week 24	101	115		
Week 28	105	118		

Statistical analyses

Statistical analysis title	PASI 100 at Week 28
Statistical analysis description:	
Comparison of mean change between treatments in PASI 100 at Week 28	
Comparison groups	Secukinumab 300 mg subcutaneous (s.c.) v Secukinumab 300 mg s.c. and lifestyle intervention
Number of subjects included in analysis	780
Analysis specification	Pre-specified
Analysis type	
P-value	= 0.4351
Method	Regression, Logistic
Parameter estimate	Odds ratio (OR)
Point estimate	0.87
Confidence interval	
level	95 %
sides	2-sided
lower limit	0.61
upper limit	1.24

Secondary: Mean absolute Psoriasis Area and Severity Index (PASI) Score over time

End point title	Mean absolute Psoriasis Area and Severity Index (PASI) Score over time

End point description:

The Psoriasis Area and Severity Index (PASI) is a combined assessment of lesion severity and affected area into a single score: 0 (no disease) to 72 (maximal disease). Body is divided into 4 areas for scoring (head, trunk, upper limbs, lower limbs); each area is scored by itself and scores are combined for final PASI. For each area, percent of skin involved is estimated: 0 (0%) to 6 (90-100%), and severity is estimated by clinical signs, erythema, induration and desquamation; scale 0 (none) to 4 (maximum). Final PASI = sum of severity parameters for each area * area score weight of section (head: 0.1, arms: 0.2 body: 0.3 legs: 0.4).
A negative change in absolute PASI score means that the severity of psoriasis has decreased, indicating an improvement in the patient's condition.

End point type	Secondary

End point timeframe:

Baseline, Week 1, Week 2, Week 3, Week 4, Week 8, Week 12, Week 16, Week 20, Week 24, Week 28

End point values	Secukinumab 300 mg subcutaneous (s.c.)	Secukinumab 300 mg s.c. and lifestyle intervention		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	371	409		
Units: Unit on a scale				
arithmetic mean (standard error)				
Baseline (n= 371, 409)	19.8 (± 0.39)	19.7 (± 0.38)		
Week 1 (n= 365, 402)	-2.8 (± 0.22)	-2.9 (± 0.21)		
Week 2 (n= 361, 394)	-6.6 (± 0.23)	-6.9 (± 0.22)		
Week 3 (n= 362, 392)	-9.9 (± 0.25)	-10.1 (± 0.23)		
Week 4 (n= 364, 393)	-12.0 (± 0.26)	-12.4 (± 0.25)		
Week 8 (n= 360, 394)	-15.5 (± 0.26)	-15.5 (± 0.25)		
Week 12 (n= 309, 335)	-16.6 (± 0.26)	-16.9 (± 0.25)		
Week 16 (n= 354, 388)	-17.2 (± 0.27)	-17.3 (± 0.26)		
Week 20 (n= 346, 380)	-17.4 (± 0.27)	-17.5 (± 0.26)		
Week 24 (n= 337, 376)	-17.4 (± 0.28)	-17.6 (± 0.26)		
Week 28 (n= 334, 366)	-17.3 (± 0.29)	-17.6 (± 0.27)		

Statistical analyses

Statistical analysis title	Absolute PASI Score at week 28
Statistical analysis description:	
Mean change from Baseline in absolute PASI Score at week 28	
Comparison groups	Secukinumab 300 mg subcutaneous (s.c.) v Secukinumab 300 mg s.c. and lifestyle intervention
Number of subjects included in analysis	780
Analysis specification	Pre-specified
Analysis type	
P-value	= 0.5443
Method	Mixed models analysis
Parameter estimate	least squares (LS) mean change
Point estimate	-0.2
Confidence interval	
level	95 %
sides	2-sided
lower limit	-1
upper limit	0.5
Variability estimate	Standard error of the mean
Dispersion value	0.38

Secondary: Mean change from Baseline in high-sensitivity C-reactive Protein (hsCRP)

End point title	Mean change from Baseline in high-sensitivity C-reactive Protein (hsCRP)

End point description:

High-sensitivity C-reactive Protein (hsCRP) was evaluated in both treatment arms throughout the duration of the core study and summarized using descriptive statistics.

End point type	Secondary

End point timeframe:

Baseline, Week 2, Week 4, Week 8, Week 12, Week 16, Week 20, Week 24, Week 28

End point values	Secukinumab 300 mg subcutaneous (s.c.)	Secukinumab 300 mg s.c. and lifestyle intervention		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	370	409		
Units: milligram/litre (mg/L)				
arithmetic mean (standard deviation)				
Baseline (n=370, 409)	0.648 (± 0.7565)	0.575 (± 0.6239)		
Change from BL @ Week 2 (n=354, 386)	-0.087 (± 0.7242)	-0.124 (± 0.5178)		
Change from BL @ Week 4 (n=362, 392)	-0.098 (± 0.6860)	-0.117 (± 0.5218)		
Change from BL @ Week 8 (n=357, 392)	-0.117 (± 0.6797)	-0.092 (± 0.5733)		
Change from BL @ Week 12 (n=310, 334)	-0.069 (± 0.7539)	-0.078 (± 0.7599)		
Change from BL @ Week 16 (n=352, 387)	-0.100 (± 0.6654)	-0.116 (± 0.4679)		
Change from BL @ Week 20 (n=345, 378)	-0.074 (± 0.7019)	-0.113 (± 0.5109)		
Change from BL @ Week 24 (n=333, 373)	-0.087 (± 0.7964)	-0.097 (± 0.5783)		
Change from BL @ Week 28 (n=332, 362)	-0.101 (± 0.7694)	-0.141 (± 0.4254)		

Statistical analyses

Statistical analysis title	hsCRP at week 28

Statistical analysis description:

Comparison of mean change between treatments in hsCRP at week 28

Comparison groups	Secukinumab 300 mg subcutaneous (s.c.) v Secukinumab 300 mg s.c. and lifestyle intervention
Number of subjects included in analysis	779
Analysis specification	Pre-specified
Analysis type	
P-value	= 0.0057
Method	Mixed models analysis
Parameter estimate	Comparison of mean change between treatm
Point estimate	-0.114
Confidence interval	
level	95 %
sides	2-sided
lower limit	-0.194
upper limit	-0.033

Secondary: Mean change from Baseline in Hemoglobin A1c (HbA1c)

End point title	Mean change from Baseline in Hemoglobin A1c (HbA1c)

End point description:

Hemoglobin A1c (HbA1c) was evaluated in both treatment arms throughout the duration of the core study and summarized using descriptive statistics.

End point type	Secondary

End point timeframe:

Baseline, Week 8, Week 16, Week 24, Week 28

End point values	Secukinumab 300 mg subcutaneous (s.c.)	Secukinumab 300 mg s.c. and lifestyle intervention		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	365	402		
Units: Percentage (%)				
arithmetic mean (standard deviation)				
Baseline (n= 365, 402)	5.69 (± 0.706)	5.69 (± 0.694)		
Change from BL @ Week 8 (n=346, 378)	0.01 (± 0.293)	-0.07 (± 0.314)		
Change from BL @ Week 16 (n=346, 380)	0.03 (± 0.389)	-0.06 (± 0.342)		
Change from BL @ Week 24 (n=180, 180))	0.03 (± 0.388)	-0.04 (± 0.332)		
Change from BL @ Week 28 (n=317, 348)	0.03 (± 0.417)	-0.05 (± 0.353)		

Statistical analyses

Statistical analysis title	HbA1c at week 28

Statistical analysis description:

HbA1c - Comparison of mean change between treatments at week 28

Comparison groups	Secukinumab 300 mg subcutaneous (s.c.) v Secukinumab 300 mg s.c. and lifestyle intervention
Number of subjects included in analysis	767
Analysis specification	Pre-specified
Analysis type	
P-value	= 0.0012
Method	Mixed models analysis
Parameter estimate	least squares (LS) mean change
Point estimate	-0.09
Confidence interval	
level	95 %
sides	2-sided
lower limit	-0.14
upper limit	-0.04

Variability estimate	Standard error of the mean
Dispersion value	0.027

Secondary: Mean change from Baseline in Fructosamine

End point title	Mean change from Baseline in Fructosamine

End point description:

Fructosamine was evaluated in both treatment arms throughout the duration of the core study and summarized using descriptive statistics.

End point type	Secondary

End point timeframe:

Baseline, Week 4, Week 8, Week 12, Week 16, Week 20, Week 24, Week 28

End point values	Secukinumab 300 mg subcutaneous (s.c.)	Secukinumab 300 mg s.c. and lifestyle intervention		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	365	402		
Units: micromole/liter (µmol/L)				
arithmetic mean (standard deviation)				
Baseline (n=365, 402)	270.1 (± 61.62)	266.7 (± 61.91)		
Change from BL @ Week 4 (n=127, 135)	-1.0 (± 43.96)	-9.6 (± 43.23)		
Change from BL @ Week 8 (n=349, 378)	-2.4 (± 41.24)	-4.2 (± 48.95)		
Change from BL @ Week 12 (n=137, 135)	6.6 (± 45.84)	-6.4 (± 39.15)		
Change from BL @ Week 16 (n=346, 381)	0.8 (± 45.17)	-0.4 (± 48.15)		
Change from BL @ Week 20 (n=157, 154)	-0.6 (± 46.43)	-6.4 (± 56.76)		
Change from BL @ Week 24 (n=177, 179)	0.6 (± 44.51)	3.9 (± 51.88)		
Change from BL @ Week 28 (n=317, 347)	2.3 (± 47.29)	1.7 (± 48.00)		

Statistical analyses

Statistical analysis title	Fructosamine at week 28

Statistical analysis description:

Fructosamine - Comparison of mean change between treatments at week 28

Comparison groups	Secukinumab 300 mg subcutaneous (s.c.) v Secukinumab 300 mg s.c. and lifestyle intervention

Number of subjects included in analysis	767
Analysis specification	Pre-specified
Analysis type	
P-value	= 0.9835
Method	Mixed models analysis
Parameter estimate	least squares (LS) mean change
Point estimate	-0.1
Confidence interval	
level	95 %
sides	2-sided
lower limit	-6.4
upper limit	6.3
Variability estimate	Standard error of the mean
Dispersion value	3.23

Secondary: Mean change from Baseline in Fasting Plasma Glucose (FPG)

End point title	Mean change from Baseline in Fasting Plasma Glucose (FPG)

End point description:

Fasting Plasma Glucose (FPG) was evaluated in both treatment arms throughout the duration of the core study and summarized using descriptive statistics.

End point type	Secondary

End point timeframe:

Baseline, Week 8, Week 16, Week 28

End point values	Secukinumab 300 mg subcutaneous (s.c.)	Secukinumab 300 mg s.c. and lifestyle intervention		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	366	402		
Units: milligram per deciliter (mg/dL)				
arithmetic mean (standard deviation)				
Baseline (n=366, 402)	102.8 (± 23.35)	103.1 (± 25.61)		
Change from BL @ Week 8 (n=347, 375)	0.8 (± 17.14)	-1.7 (± 16.71)		
Change from BL @ Week 16 (n=343, 377)	1.9 (± 20.51)	-2.1 (± 16.26)		
Change from BL @ Week 28 (n=320, 347)	2.9 (± 22.29)	-0.5 (± 18.60)		

Statistical analyses

Statistical analysis title	FPG at week 28

Statistical analysis description:

FPG - Comparison of mean change between treatments at week 28

Comparison groups	Secukinumab 300 mg subcutaneous (s.c.) v Secukinumab 300 mg s.c. and lifestyle intervention
Number of subjects included in analysis	768
Analysis specification	Pre-specified
Analysis type	
P-value	= 0.0086
Method	Mixed models analysis
Parameter estimate	least squares (LS) mean change
Point estimate	-3.5
Confidence interval	
level	95 %
sides	2-sided
lower limit	-6.2
upper limit	-0.9
Variability estimate	Standard error of the mean
Dispersion value	1.35

Secondary: Mean change from Baseline in Low-Density Lipoprotein (LDL)

End point title	Mean change from Baseline in Low-Density Lipoprotein (LDL)

End point description:

Low-Density Lipoprotein (LDL) was evaluated in both treatment arms throughout the duration of the core study and summarized using descriptive statistics.

End point type	Secondary

End point timeframe:

Baseline, Week 8, Week 16, Week 28

End point values	Secukinumab 300 mg subcutaneous (s.c.)	Secukinumab 300 mg s.c. and lifestyle intervention		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	370	409		
Units: milligram per deciliter (mg/dL)				
arithmetic mean (standard deviation)				
Baseline (n=370, 409)	136.6 (± 39.98)	143.3 (± 39.39)		
Change from BL @ Week 8 (n=355, 394)	1.6 (± 21.53)	-2.2 (± 22.00)		
Change from BL @ Week 16 (n=350, 386)	-1.4 (± 22.67)	-0.9 (± 24.14)		
Change from BL @ Week 28 (n=332, 359)	1.9 (± 25.57)	-1.2 (± 25.10)		

Statistical analyses

Statistical analysis title	LDL at week 28
Statistical analysis description:	
LDL - Comparison of mean change between treatments at week 28	
Comparison groups	Secukinumab 300 mg subcutaneous (s.c.) v Secukinumab 300 mg s.c. and lifestyle intervention
Number of subjects included in analysis	779
Analysis specification	Pre-specified
Analysis type	
P-value	= 0.1298
Method	Mixed models analysis
Parameter estimate	least squares (LS) mean change
Point estimate	-2.8
Confidence interval	
level	95 %
sides	2-sided
lower limit	-6.5
upper limit	0.8
Variability estimate	Standard error of the mean
Dispersion value	1.86

Secondary: Mean change from Baseline in Total cholesterol	
End point title	Mean change from Baseline in Total cholesterol
End point description:	
Total cholesterol was evaluated in both treatment arms throughout the duration of the core study and summarized using descriptive statistics.	
End point type	Secondary
End point timeframe:	
Baseline, Week 8, Week 16, Week 28	

End point values	Secukinumab 300 mg subcutaneous (s.c.)	Secukinumab 300 mg s.c. and lifestyle intervention		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	370	409		
Units: milligram per deciliter (mg/dL)				
arithmetic mean (standard deviation)				
Baseline (n=370, 409)	203.4 (± 42.38)	208.2 (± 41.61)		
Change from BL @ Week 8 (n=355, 394)	1.9 (± 26.75)	-2.5 (± 24.84)		
Change from BL @ Week 16 (n=350, 386)	-0.2 (± 25.33)	-1.3 (± 25.30)		
Change from BL @ Week 28 (n=332, 359)	-0.4 (± 30.13)	-3.1 (± 25.45)		

Statistical analyses

Statistical analysis title	Total cholesterol at week 28
Statistical analysis description:	
Total cholesterol - Comparison of mean change between treatments at week 28	
Comparison groups	Secukinumab 300 mg subcutaneous (s.c.) v Secukinumab 300 mg s.c. and lifestyle intervention
Number of subjects included in analysis	779
Analysis specification	Pre-specified
Analysis type	
P-value	= 0.2755
Method	Mixed models analysis
Parameter estimate	least squares (LS) mean change
Point estimate	-2.3
Confidence interval	
level	95 %
sides	2-sided
lower limit	-6.4
upper limit	1.8
Variability estimate	Standard error of the mean
Dispersion value	2.08

Secondary: Mean change from Baseline in High-Density Lipoprotein (HDL)

End point title	Mean change from Baseline in High-Density Lipoprotein (HDL)
End point description:	
High-Density Lipoprotein (HDL) was evaluated in both treatment arms throughout the duration of the core study and summarized using descriptive statistics.	
End point type	Secondary
End point timeframe:	
Baseline, Week 8, Week 16, Week 28	

End point values	Secukinumab 300 mg subcutaneous (s.c.)	Secukinumab 300 mg s.c. and lifestyle intervention		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	370	409		
Units: milligram per deciliter (mg/dL)				
arithmetic mean (standard deviation)				
Baseline (n=370, 409)	45.5 (± 11.81)	46.1 (± 10.62)		
Change from BL @ Week 8 (n=355, 394)	-0.5 (± 5.29)	-1.0 (± 6.20)		
Change from BL @ Week 16 (n=350, 386)	-0.8 (± 5.92)	0.0 (± 6.69)		
Change from BL @ Week 28 (n=332, 359)	0.0 (± 6.91)	0.5 (± 7.29)		

Statistical analyses

Statistical analysis title	HDL at week 28
Statistical analysis description:	
HDL - Comparison of mean change between treatments at week 28	
Comparison groups	Secukinumab 300 mg subcutaneous (s.c.) v Secukinumab 300 mg s.c. and lifestyle intervention
Number of subjects included in analysis	779
Analysis specification	Pre-specified
Analysis type	
P-value	= 0.2084
Method	Mixed models analysis
Parameter estimate	least squares (LS) mean change
Point estimate	0.7
Confidence interval	
level	95 %
sides	2-sided
lower limit	-0.4
upper limit	1.7
Variability estimate	Standard error of the mean
Dispersion value	0.53

Secondary: Mean change from Baseline in Triglycerides

End point title	Mean change from Baseline in Triglycerides
End point description:	
Triglycerides were evaluated in both treatment arms throughout the duration of the core study and summarized using descriptive statistics.	
End point type	Secondary
End point timeframe:	
Baseline, Week 8, Week 16, Week 28	

End point values	Secukinumab 300 mg subcutaneous (s.c.)	Secukinumab 300 mg s.c. and lifestyle intervention		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	370	409		
Units: milligram per deciliter (mg/dL)				
arithmetic mean (standard deviation)				
Baseline (n=370, 409)	210.4 (± 169.58)	195.8 (± 126.83)		

Change from BL @ Week 8 (n=355, 394)	2.5 (± 100.55)	-2.7 (± 100.29)		
Change from BL @ Week 16 (n=350, 386)	11.0 (± 146.64)	-1.7 (± 111.36)		
Change from BL @ Week 28 (n=332, 359)	-5.9 (± 187.93)	-6.3 (± 98.69)		

Statistical analyses

Statistical analysis title	TRIG at week 28
Statistical analysis description:	
TRIG - Comparison of mean change between treatments at week 28	
Comparison groups	Secukinumab 300 mg subcutaneous (s.c.) v Secukinumab 300 mg s.c. and lifestyle intervention
Number of subjects included in analysis	779
Analysis specification	Pre-specified
Analysis type	
P-value	= 0.5187
Method	Mixed models analysis
Parameter estimate	least squares (LS) mean change
Point estimate	-5.8
Confidence interval	
level	95 %
sides	2-sided
lower limit	-23.3
upper limit	11.7
Variability estimate	Standard error of the mean
Dispersion value	8.92

Secondary: Mean change from Baseline in Waist circumference

End point title	Mean change from Baseline in Waist circumference
End point description:	
Waist circumference was evaluated in both treatment arms throughout the duration of the core study and summarized using descriptive statistics.	
End point type	Secondary
End point timeframe:	
Baseline, Week 1, Week 2, Week 3, Week 4, Week 8, Week 12, Week 16, Week 20, Week 24, Week 28	

End point values	Secukinumab 300 mg subcutaneous (s.c.)	Secukinumab 300 mg s.c. and lifestyle intervention		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	371	409		
Units: Centimeter (cm)				
arithmetic mean (standard deviation)				

Baseline (n=371, 409)	115.3 (± 15.10)	114.9 (± 13.99)		
Change from BL @ Week 1 (n=365, 402)	-0.5 (± 2.97)	-0.3 (± 3.41)		
Change from BL @ Week 2 (n=361, 393)	-0.7 (± 3.74)	-1.1 (± 4.30)		
Change from BL @ Week 3 (n=362, 391)	-0.8 (± 3.66)	-1.3 (± 4.71)		
Change from BL @ Week 4 (n=363, 393)	-0.9 (± 3.92)	-2.0 (± 4.54)		
Change from BL @ Week 8 (n=359, 394)	-1.2 (± 4.53)	-2.6 (± 5.34)		
Change from BL @ Week 12 (n=309, 335)	-1.1 (± 4.43)	-2.9 (± 5.68)		
Change from BL @ Week 16 (n=353, 388)	-1.4 (± 5.22)	-3.5 (± 6.09)		
Change from BL @ Week 20 (n=346, 381)	-1.3 (± 5.47)	-3.5 (± 6.09)		
Change from BL @ Week 24 (n=337, 375)	-1.4 (± 5.34)	-3.7 (± 6.72)		
Change from BL @ Week 28 (n=331, 366)	-1.5 (± 5.50)	-3.9 (± 7.04)		

Statistical analyses

Statistical analysis title	Waist circumference at week 28
Statistical analysis description: Waist circumference - Comparison of mean change between treatments at week 28	
Comparison groups	Secukinumab 300 mg subcutaneous (s.c.) v Secukinumab 300 mg s.c. and lifestyle intervention
Number of subjects included in analysis	780
Analysis specification	Pre-specified
Analysis type	
P-value	< 0.0001
Method	Mixed models analysis
Parameter estimate	least squares (LS) mean change
Point estimate	-2.7
Confidence interval	
level	95 %
sides	2-sided
lower limit	-3.6
upper limit	-1.8
Variability estimate	Standard error of the mean
Dispersion value	0.47

Secondary: Mean change from Baseline in Body weight

End point title	Mean change from Baseline in Body weight
End point description: Body weight was evaluated in both treatment arms throughout the duration of the core study and summarized using descriptive statistics.	
End point type	Secondary

End point timeframe:

Baseline, Week 1, Week 2, Week 3, Week 4, Week 8, Week 12, Week 16, Week 20, Week 24, Week 28

End point values	Secukinumab 300 mg subcutaneous (s.c.)	Secukinumab 300 mg s.c. and lifestyle intervention		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	371	409		
Units: Kilogram (kg)				
arithmetic mean (standard deviation)				
Baseline (n=371, 409)	107.16 (± 22.624)	107.9 (± 20.765)		
Change from BL @ Week 1 (n=365, 402)	0.06 (± 2.120)	-0.33 (± 1.401)		
Change from BL @ Week 2 (n=361, 394)	-0.04 (± 1.729)	-0.75 (± 1.739)		
Change from BL @ Week 3 (n=362, 392)	-0.05 (± 2.189)	-1.08 (± 2.278)		
Change from BL @ Week 4 (n=363, 394)	-0.08 (± 2.326)	-1.20 (± 2.177)		
Change from BL @ Week 8 (n=360, 393)	-0.15 (± 2.447)	-1.84 (± 3.471)		
Change from BL @ Week 12 (n=310, 335)	0.02 (± 2.726)	-2.38 (± 4.150)		
Change from BL @ Week 16 (n=355, 388)	-0.21 (± 3.243)	-2.65 (± 4.892)		
Change from BL @ Week 20 (n=346, 381)	-0.36 (± 3.581)	-2.72 (± 5.480)		
Change from BL @ Week 24 (n=337, 376)	-0.30 (± 3.815)	-2.86 (± 6.056)		
Change from BL @ Week 28 (n=334, 366)	-0.17 (± 3.803)	-3.03 (± 6.107)		

Statistical analyses

Statistical analysis title	Body weight at week 28
Statistical analysis description: Body weight - Comparison of mean change between treatments at week 28	
Comparison groups	Secukinumab 300 mg subcutaneous (s.c.) v Secukinumab 300 mg s.c. and lifestyle intervention
Number of subjects included in analysis	780
Analysis specification	Pre-specified
Analysis type	
P-value	< 0.0001
Method	Mixed models analysis
Parameter estimate	least squares (LS) mean change
Point estimate	-2.85

Confidence interval	
level	95 %
sides	2-sided
lower limit	-3.61
upper limit	-2.09
Variability estimate	Standard error of the mean
Dispersion value	0.385

Secondary: Mean change from Baseline in Body Mass Index (BMI)

End point title	Mean change from Baseline in Body Mass Index (BMI)

End point description:

Body Mass Index (BMI) was evaluated in both treatment arms throughout the duration of the core study and summarized using descriptive statistics.

End point type	Secondary

End point timeframe:

Baseline, Week 1, Week 2, Week 3, Week 4, Week 8, Week 12, Week 16, Week 20, Week 24, Week 28

End point values	Secukinumab 300 mg subcutaneous (s.c.)	Secukinumab 300 mg s.c. and lifestyle intervention		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	371	409		
Units: Kilogram by square meter (kg/m^2)				
arithmetic mean (standard deviation)				
Baseline (n=371, 409)	34.788 (± 6.8112)	34.631 (± 6.4232)		
Change from BL @ Week 1 (n=365, 402)	0.015 (± 0.6846)	-0.110 (± 0.4515)		
Change from BL @ Week 2 (n=361, 394)	-0.015 (± 0.5545)	-0.240 (± 0.5649)		
Change from BL @ Week 3 (n=362, 392)	-0.014 (± 0.7076)	-0.346 (± 0.7352)		
Change from BL @ Week 4 (n=363, 394)	-0.027 (± 0.7451)	-0.386 (± 0.7128)		
Change from BL @ Week 8 (n=360, 393)	-0.047 (± 0.7838)	-0.582 (± 1.1641)		
Change from BL @ Week 12 (n=310, 335)	0.009 (± 0.8768)	-0.758 (± 1.3522)		
Change from BL @ Week 16 (n=355, 388)	-0.070 (± 1.0432)	-0.843 (± 1.5780)		
Change from BL @ Week 20 (n=346, 381)	-0.113 (± 1.1627)	-0.864 (± 1.7769)		
Change from BL @ Week 24 (n=337, 376)	-0.094 (± 1.2417)	-0.906 (± 1.9591)		
Change from BL @ Week 28 (n=334, 366)	-0.054 (± 1.2309)	-0.961 (± 1.9665)		

Statistical analyses

Statistical analysis title	BMI at week 28
Statistical analysis description:	
BMI - Comparison of mean change between treatments at week 28	
Comparison groups	Secukinumab 300 mg subcutaneous (s.c.) v Secukinumab 300 mg s.c. and lifestyle intervention
Number of subjects included in analysis	780
Analysis specification	Pre-specified
Analysis type	
P-value	< 0.0001
Method	Mixed models analysis
Parameter estimate	least squares (LS) mean change
Point estimate	-0.907
Confidence interval	
level	95 %
sides	2-sided
lower limit	-1.151
upper limit	-0.663
Variability estimate	Standard error of the mean
Dispersion value	0.1243

Secondary: Mean change from Baseline in Systolic Blood Pressure

End point title	Mean change from Baseline in Systolic Blood Pressure
End point description:	
Systolic Blood Pressure was evaluated in both treatment arms throughout the duration of the core study and summarized using descriptive statistics.	
End point type	Secondary
End point timeframe:	
Baseline, Week 1, Week 2, Week 3, Week 4, Week 8, Week 12, Week 16, Week 20, Week 24, Week 28	

End point values	Secukinumab 300 mg subcutaneous (s.c.)	Secukinumab 300 mg s.c. and lifestyle intervention		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	371	409		
Units: millimeter of mercury (mmHg)				
arithmetic mean (standard deviation)				
Baseline (n=371, 409)	139.44 (± 11.703)	139.19 (± 11.711)		
Change from BL @ Week 1 (n=365, 402)	-0.66 (± 10.033)	-1.44 (± 10.964)		
Change from BL @ Week 2 (n=361, 394)	-1.24 (± 11.499)	-3.12 (± 11.422)		
Change from BL @ Week 3 (n=362, 392)	-1.05 (± 11.086)	-3.67 (± 12.740)		
Change from BL @ Week 4 (n=362, 394)	-3.02 (± 10.693)	-4.33 (± 11.763)		

Change from BL @ Week 8 (n=360, 394)	-2.52 (± 12.394)	-3.88 (± 12.545)		
Change from BL @ Week 12 (n=310, 335)	-1.64 (± 12.054)	-3.65 (± 12.982)		
Change from BL @ Week 16 (n=354, 388)	-3.03 (± 12.646)	-4.33 (± 12.980)		
Change from BL @ Week 20 (n=346, 381)	-1.65 (± 12.067)	-3.70 (± 13.323)		
Change from BL @ Week 24 (n=337, 376)	-2.53 (± 12.681)	-4.35 (± 13.455)		
Change from BL @ Week 28 (n=334, 366)	-2.56 (± 12.179)	-4.28 (± 13.475)		

Statistical analyses

Statistical analysis title	SYSBP at week 28
Statistical analysis description:	
SYSBP - Comparison of mean change between treatments at week 28	
Comparison groups	Secukinumab 300 mg subcutaneous (s.c.) v Secukinumab 300 mg s.c. and lifestyle intervention
Number of subjects included in analysis	780
Analysis specification	Pre-specified
Analysis type	
P-value	= 0.0204
Method	Mixed models analysis
Parameter estimate	least squares (LS) mean change
Point estimate	-2
Confidence interval	
level	95 %
sides	2-sided
lower limit	-3.7
upper limit	-0.3
Variability estimate	Standard error of the mean
Dispersion value	0.87

Secondary: Mean change from Baseline in Diastolic Blood Pressure

End point title	Mean change from Baseline in Diastolic Blood Pressure
End point description:	
Diastolic Blood Pressure was evaluated in both treatment arms throughout the duration of the core study and summarized using descriptive statistics.	
End point type	Secondary
End point timeframe:	
Baseline, Week 1, Week 2, Week 3, Week 4, Week 8, Week 12, Week 16, Week 20, Week 24, Week 28	

End point values	Secukinumab 300 mg subcutaneous (s.c.)	Secukinumab 300 mg s.c. and lifestyle intervention		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	371	409		
Units: millimeter of mercury (mmHg)				
arithmetic mean (standard deviation)				
Baseline (n=371, 409)	86.44 (± 7.116)	86.50 (± 7.305)		
Change from BL @ Week 1 (n=365, 402)	-0.39 (± 6.761)	-1.02 (± 7.495)		
Change from BL @ Week 2 (n=361, 394)	-0.65 (± 7.460)	-1.16 (± 7.630)		
Change from BL @ Week 3 (n=362, 392)	-0.62 (± 7.180)	-1.66 (± 8.030)		
Change from BL @ Week 4 (n=362, 394)	-1.29 (± 7.349)	-2.00 (± 7.925)		
Change from BL @ Week 8 (n=360, 394)	-0.60 (± 7.510)	-1.51 (± 7.517)		
Change from BL @ Week 12 (n=310, 335)	-0.37 (± 7.820)	-1.56 (± 8.754)		
Change from BL @ Week 16 (n=354, 388)	-0.60 (± 7.969)	-1.99 (± 8.211)		
Change from BL @ Week 20 (n=346, 381)	-0.59 (± 8.040)	-2.28 (± 8.275)		
Change from BL @ Week 24 (n=337, 376)	-0.73 (± 8.270)	-2.04 (± 8.701)		
Change from BL @ Week 28 (n=334, 366)	-0.48 (± 8.417)	-1.65 (± 8.877)		

Statistical analyses

Statistical analysis title	DIABP at week 28
Statistical analysis description: DIABP - Comparison of mean change between treatments at week 28	
Comparison groups	Secukinumab 300 mg subcutaneous (s.c.) v Secukinumab 300 mg s.c. and lifestyle intervention
Number of subjects included in analysis	780
Analysis specification	Pre-specified
Analysis type	
P-value	= 0.0652
Method	Mixed models analysis
Parameter estimate	least squares (LS) mean change
Point estimate	-1.1
Confidence interval	
level	95 %
sides	2-sided
lower limit	-2.2
upper limit	0.1
Variability estimate	Standard error of the mean
Dispersion value	0.58

Secondary: Dermatology Life Quality Index (DLQI) Total Score over time

End point title	Dermatology Life Quality Index (DLQI) Total Score over time

End point description:

The Dermatology life Quality Index (DLQI) is a ten-question questionnaire used to measure the impact of skin disease on the quality of life of an affected person. Each question refers to the impact of the skin disease on the patient's life (symptoms, embarrassment, shopping and home care, clothes, social and leisure, sport, work or study, close relationships, sex, treatment) over the previous week and is scored from 0 to 3, giving a possible score range from 0 (meaning no impact of skin disease on quality of life) to 30 (meaning maximum impact on quality of life).

End point type	Secondary

End point timeframe:

Baseline, Week 4, Week 8, Week 12, Week 16, Week 20, Week 24, Week 28

End point values	Secukinumab 300 mg subcutaneous (s.c.)	Secukinumab 300 mg s.c. and lifestyle intervention		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	371	409		
Units: Unit on a scale				
arithmetic mean (standard deviation)				
Baseline (n=371, 409)	19.55 (± 5.124)	19.12 (± 5.449)		
Week 4 (n=366, 394)	8.57 (± 5.932)	7.92 (± 6.119)		
Week 8 (n=360, 395)	5.47 (± 5.725)	5.18 (± 5.405)		
Week 12 (n= 309, 335)	4.29 (± 5.341)	4.16 (± 5.100)		
Week 16 (n= 354, 388)	3.90 (± 5.374)	3.73 (± 4.927)		
Week 20 (n= 346, 380)	3.43 (± 5.101)	3.43 (± 5.061)		
Week 24 (n=337, 378)	3.42 (± 5.261)	3.33 (± 4.824)		
Week 28 (n=334, 366)	3.42 (± 5.242)	3.30 (± 5.312)		

Statistical analyses

No statistical analyses for this end point

Secondary: Mean change from Baseline in Dermatology Life Quality Index (DLQI) Total Score over time

End point title	Mean change from Baseline in Dermatology Life Quality Index (DLQI) Total Score over time

End point description:

The Dermatology life Quality Index (DLQI) is a ten-question questionnaire used to measure the impact of skin disease on the quality of life of an affected person. Each question refers to the impact of the skin disease on the patient's life (symptoms, embarrassment, shopping and home care, clothes, social and leisure, sport, work or study, close relationships, sex, treatment) over the previous week and is scored from 0 to 3, giving a possible score range from 0 (meaning no impact of skin disease on quality of life) to 30 (meaning maximum impact on quality of life).

End point type	Secondary

End point timeframe:
Baseline, Week 4, Week 8, Week 12, Week 16, Week 20, Week 24, Week 28

End point values	Secukinumab 300 mg subcutaneous (s.c.)	Secukinumab 300 mg s.c. and lifestyle intervention		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	371	409		
Units: Unit on a scale				
arithmetic mean (standard deviation)				
Baseline (n=371, 409)	19.5 (± 5.12)	19.1 (± 5.45)		
Change from BL @ Week 4 (n=366, 394)	-11.0 (± 6.66)	-11.3 (± 6.68)		
Change from BL @ Week 8 (n=360, 395)	-14.1 (± 6.91)	-14.1 (± 6.60)		
Change from BL @ Week 12 (n=309, 335)	-15.5 (± 6.68)	-15.1 (± 6.51)		
Change from BL @ Week 16 (n=354, 388)	-15.7 (± 6.60)	-15.4 (± 6.33)		
Change from BL @ Week 20 (n=346, 380)	-16.2 (± 6.81)	-15.7 (± 6.66)		
Change from BL @ Week 24 (n=337, 378)	-16.1 (± 6.75)	-15.8 (± 6.46)		
Change from BL @ Week 28 (n=334, 366)	-16.1 (± 6.80)	-15.9 (± 6.67)		

Statistical analyses

Statistical analysis title	DLQI Total Score at Week 28
Statistical analysis description: DLQI Total Score - Comparison of mean change between treatments at Week 28	
Comparison groups	Secukinumab 300 mg subcutaneous (s.c.) v Secukinumab 300 mg s.c. and lifestyle intervention
Number of subjects included in analysis	780
Analysis specification	Pre-specified
Analysis type	
P-value	= 0.7733
Method	Mixed models analysis
Parameter estimate	least squares (LS) mean change
Point estimate	-0.12
Confidence interval	
level	95 %
sides	2-sided
lower limit	-0.9
upper limit	0.7
Variability estimate	Standard error of the mean
Dispersion value	0.41

Secondary: Percentage of patients with Dermatology Life Quality Index (DLQI) Response

End point title	Percentage of patients with Dermatology Life Quality Index (DLQI) Response

End point description:

All patients with DLQI score 0 and 1 were considered as responders and patients with DLQI score >=2 were considered as non-responders. Subjects with missing DLQI score were counted as non-responders.

End point type	Secondary

End point timeframe:

Week 4, Week 8, Week 12, Week 16, Week 20, Week 24, Week 28

End point values	Secukinumab 300 mg subcutaneous (s.c.)	Secukinumab 300 mg s.c. and lifestyle intervention		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	371	409		
Units: Participants				
Non-Responders @ Week 4	323	344		
Responders @ Week 4	43	50		
Non-Responders @ Week 8	249	269		
Responders @ Week 8	111	126		
Non-Responders @ Week 12	179	192		
Responders @ Week 12	130	143		
Non-Responders @ Week 16	176	201		
Responders @ Week 16	178	187		
Non-Responders @ Week 20	153	170		
Responders @ Week 20	193	210		
Non-Responders @ Week 24	148	175		
Responders @ Week 24	189	203		
Non-Responders @ Week 28	145	154		
Responders @ Week 28	189	212		

Statistical analyses

No statistical analyses for this end point

Secondary: World Health Organization Well-Being Index (WHO-5) Total score over time

End point title	World Health Organization Well-Being Index (WHO-5) Total score over time

End point description:

The 5-item World Health Organization Well-Being Index (WHO-5) is a validated, short questionnaire consisting of 5 simple questions, assessing subjective psychological well-being of the respondents: Felt cheerful and in good spirits, Felt calm and relaxed, Felt active and vigorous, Feeling fresh and rested and Things that interest me in daily life. The recall period is the previous two weeks. Each item has 6

response categories, ranging from 5 (“the whole time”) to 0 (“at no time point”). The raw score ranges from 0 to 25, with 0 representing worst possible and 25 representing best possible quality of life. To obtain a percentage score ranging from 0 to 100, the raw score is multiplied by 4. A percentage score of 0 represents worst possible, whereas a score of 100 represents best possible quality of life.

End point type	Secondary

End point timeframe:

Baseline, Week 4, Week 8, Week 12, Week 16, Week 20, Week 24, Week 28

End point values	Secukinumab 300 mg subcutaneous (s.c.)	Secukinumab 300 mg s.c. and lifestyle intervention		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	371	409		
Units: Unit on a scale				
arithmetic mean (standard deviation)				
Baseline (n=371, 409)	10.46 (± 5.208)	10.62 (± 5.283)		
Week 4 (n=365, 394)	14.45 (± 5.236)	15.52 (± 4.921)		
Week 8 (n=360, 395)	15.65 (± 4.889)	15.99 (± 4.697)		
Week 12 (n=309, 335)	15.77 (± 5.083)	16.37 (± 4.824)		
Week 16 (n=353, 388)	15.91 (± 5.334)	16.45 (± 4.902)		
Week 20 (n=346, 379)	16.30 (± 5.364)	16.44 (± 4.978)		
Week 24 (n=337, 378)	16.47 (± 5.173)	16.55 (± 4.865)		
Week 28 (n=334, 366)	16.20 (± 5.583)	16.69 (± 4.910)		

Statistical analyses

No statistical analyses for this end point

Secondary: Mean change from Baseline in World Health Organization Well-Being Index (WHO-5) Total score over time

End point title	Mean change from Baseline in World Health Organization Well-Being Index (WHO-5) Total score over time

End point description:

The 5-item World Health Organization Well-Being Index (WHO-5) is a validated, short questionnaire consisting of 5 simple questions, assessing subjective psychological well-being of the respondents: Felt cheerful and in good spirits, Felt calm and relaxed, Felt active and vigorous, Feeling fresh and rested and Things that interest me in daily life. The recall period is the previous two weeks. Each item has 6 response categories, ranging from 5 (“the whole time”) to 0 (“at no time point”). The raw score ranges from 0 to 25, with 0 representing worst possible and 25 representing best possible quality of life. To obtain a percentage score ranging from 0 to 100, the raw score is multiplied by 4. A percentage score of 0 represents worst possible, whereas a score of 100 represents best possible quality of life.

End point type	Secondary

End point timeframe:

Baseline, Week 4, Week 8, Week 12, Week 16, Week 20, Week 24, Week 28

End point values	Secukinumab 300 mg subcutaneous (s.c.)	Secukinumab 300 mg s.c. and lifestyle intervention		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	371	409		
Units: Unit on a scale				
arithmetic mean (standard deviation)				
Baseline (n=371, 409)	10.5 (± 5.21)	10.6 (± 5.28)		
Week 4 (n= 365, 394)	4.0 (± 5.21)	4.9 (± 5.51)		
Week 8 (n= 360, 395)	5.1 (± 5.61)	5.4 (± 5.76)		
Week 12 (n= 309, 335)	5.2 (± 5.73)	5.7 (± 5.95)		
Week 16 (n= 353, 388)	5.4 (± 5.59)	5.8 (± 5.85)		
Week 20 (n= 346, 379)	5.8 (± 6.08)	5.8 (± 5.79)		
Week 24 (n= 337, 378)	5.9 (± 5.65)	5.9 (± 6.19)		
Week 28 (n= 334, 366)	5.6 (± 6.20)	5.9 (± 6.12)		

Statistical analyses

Statistical analysis title	WHO-5 at week 28
Statistical analysis description: WHO-5 - Comparison of mean change between treatments at week 28	
Comparison groups	Secukinumab 300 mg subcutaneous (s.c.) v Secukinumab 300 mg s.c. and lifestyle intervention
Number of subjects included in analysis	780
Analysis specification	Pre-specified
Analysis type	
P-value	= 0.0982
Method	Mixed models analysis
Parameter estimate	least squares (LS) mean change
Point estimate	0.59
Confidence interval	
level	95 %
sides	2-sided
lower limit	-0.1
upper limit	1.3
Variability estimate	Standard error of the mean
Dispersion value	0.36

Secondary: Participant's self-assessed pain, itching and scaling over time

End point title	Participant's self-assessed pain, itching and scaling over time

End point description:

A self-administered, 11-point numeric rating scale (NRS, 0-10) was used to evaluate the subject's assessment of their current pain, itching and scaling. Respondents answered the following questions for the assessment of:

* Pain: Overall, how severe was your psoriasis-related pain over the past 24 hours
* Itching: Overall, how severe was your psoriasis-related itch over the past 24 hours
* Scaling: Overall, how severe was your psoriasis-related scaling over the past 24 hours
Subjects had to rate their pain, itching, and scaling from 0 to 10 (11-point scale), with the understanding that the 0 represented the absence or null end of the pain, itching, or scale intensity (i.e., no pain, itching or scaling) and the 10 represented the other extreme of pain, itching, or scaling intensity (i.e., pain, itching or scaling as bad as it could be). The number that the patient selected represented his or her intensity score.

End point type	Secondary

End point timeframe:

Baseline, Week 4, Week 8, Week 12, Week 16, Week 20, Week 24, Week 28

End point values	Secukinumab 300 mg subcutaneous (s.c.)	Secukinumab 300 mg s.c. and lifestyle intervention		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	371	409		
Units: Unit on a scale				
arithmetic mean (standard deviation)				
Pain at Baseline (n=371, 409)	4.9 (± 2.93)	4.6 (± 2.87)		
Pain at week 4 (n= 366, 392)	1.9 (± 2.29)	1.7 (± 2.23)		
Pain at week 8 (n= 359, 394)	1.1 (± 1.88)	1.3 (± 2.05)		
Pain at week 12 (n= 309, 335)	1.2 (± 2.14)	1.0 (± 1.84)		
Pain at week 16 (n= 353, 388)	1.1 (± 2.04)	1.1 (± 1.88)		
Pain at week 20 (n= 346, 380)	1.0 (± 1.93)	1.0 (± 1.81)		
Pain at week 24 (n= 337, 378)	1.0 (± 1.91)	1.0 (± 1.85)		
Pain at week 28 (n= 333, 366)	1.2 (± 2.10)	1.0 (± 2.00)		
Itching at Baseline (n=371, 409)	7.4 (± 2.08)	7.1 (± 2.39)		
Itching at week 4 (n=366, 393)	3.2 (± 2.43)	3.0 (± 2.60)		
Itching at week 8 (n=359, 394)	2.4 (± 2.36)	2.3 (± 2.47)		
Itching at week 12 (n=309, 335)	2.2 (± 2.38)	2.0 (± 2.29)		
Itching at week 16 (n=353, 388)	2.0 (± 2.29)	2.0 (± 2.43)		
Itching at week 20 (n= 346, 380)	1.9 (± 2.23)	1.9 (± 2.19)		
Itching at week 24 (n= 337, 378)	1.9 (± 2.35)	1.8 (± 2.23)		
Itching at week 28 (n=334, 366)	2.0 (± 2.47)	1.9 (± 2.38)		
Scaling at Baseline (n=371, 409)	7.5 (± 2.01)	7.3 (± 2.17)		
Scaling at week 4 (n=366, 393)	2.7 (± 2.18)	2.4 (± 2.16)		
Scaling at week 8 (n=359, 394)	1.7 (± 1.94)	1.7 (± 2.03)		
Scaling at week 12 (n=309, 335)	1.7 (± 2.00)	1.6 (± 1.90)		
Scaling at week 16 (n=353, 388)	1.6 (± 2.10)	1.5 (± 1.95)		
Scaling at week 20 (n=346, 380)	1.6 (± 2.10)	1.5 (± 1.98)		
Scaling at week 24 (n=337, 378)	1.7 (± 2.22)	1.4 (± 1.84)		
Scaling at week 28 (n=334, 366)	1.8 (± 2.28)	1.5 (± 2.04)		

Statistical analyses

No statistical analyses for this end point

Secondary: Percentage change from Baseline in Participant's self-assessed pain, itching and scaling

End point title	Percentage change from Baseline in Participant's self-assessed pain, itching and scaling

End point description:

A self-administered, 11-point numeric rating scale (NRS, 0-10) was used to evaluate the subject's assessment of their current pain, itching and scaling. Respondents answered the following questions for the assessment of:
* Pain: Overall, how severe was your psoriasis-related pain over the past 24 hours
* Itching: Overall, how severe was your psoriasis-related itch over the past 24 hours
* Scaling: Overall, how severe was your psoriasis-related scaling over the past 24 hours
Subjects had to rate their pain, itching, and scaling from 0 to 10 (11-point scale), with the understanding that the 0 represented the absence or null end of the pain, itching, or scale intensity (i.e., no pain, itching or scaling) and the 10 represented the other extreme of pain, itching, or scaling intensity (i.e., pain, itching or scaling as bad as it could be). The number that the patient selected represented his or her intensity score.

End point type	Secondary

End point timeframe:

Baseline, Week 4, Week 8, Week 12, Week 16, Week 20, Week 24, Week 28

End point values	Secukinumab 300 mg subcutaneous (s.c.)	Secukinumab 300 mg s.c. and lifestyle intervention		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	371	409		
Units: Percentage change				
arithmetic mean (standard deviation)				
Pain at Baseline (n=371, 409)	4.9 (± 2.93)	4.6 (± 2.87)		
Pain at week 4 (n= 328, 349)	-61.4 (± 44.13)	-60.2 (± 59.10)		
Pain at week 8 (n= 321, 352)	-74.4 (± 44.39)	-68.5 (± 53.86)		
Pain at week 12 (n= 276, 299)	-72.2 (± 54.73)	-76.6 (± 40.64)		
Pain at week 16 (n= 315, 345)	-77.3 (± 38.93)	-74.0 (± 46.10)		
Pain at week 20 (n= 308, 339)	-78.4 (± 41.88)	-75.2 (± 43.55)		
Pain at week 24 (n= 302, 340)	-78.4 (± 41.88)	-75.7 (± 47.05)		
Pain at week 28 (n= 299, 328)	-76.3 (± 42.22)	-75.3 (± 52.42)		
Itching at Baseline (n=371, 409)	7.4 (± 2.08)	7.1 (± 2.39)		
Itching at week 4 (n=365, 386)	-54.1 (± 33.82)	-55.8 (± 41.19)		
Itching at week 8 (n=358, 387)	-63.7 (± 39.78)	-66.7 (± 34.31)		
Itching at week 12 (n=308, 329)	-66.6 (± 40.58)	-70.0 (± 33.53)		
Itching at week 16 (n=352, 381)	-70.6 (± 34.79)	-70.0 (± 35.79)		
Itching at week 20 (n= 345, 373)	-71.1 (± 37.64)	-73.0 (± 35.36)		
Itching at week 24 (n= 326, 374)	-69.6 (± 46.85)	-72.6 (± 35.64)		

Itching at week 28 (n=333, 361)	-68.5 (± 48.46)	-72.1 (± 35.97)		
Scaling at Baseline (n=371, 409)	7.5 (± 2.01)	7.3 (± 2.17)		
Scaling at week 4 (n=366, 389)	-62.2 (± 30.65)	-64.9 (± 34.27)		
Scaling at week 8 (n=359, 390)	-74.9 (± 38.02)	-75.1 (± 30.50)		
Scaling at week 12 (n=309, 332)	-76.5 (± 29.91)	-76.9 (± 31.93)		
Scaling at week 16 (n=353, 384)	-74.3 (± 40.92)	-77.2 (± 32.84)		
Scaling at week 20 (n=346, 376)	-76.4 (± 31.93)	-76.2 (± 36.76)		
Scaling at week 24 (n=337, 375)	-75.4 (± 35.21)	-78.2 (± 33.38)		
Scaling at week 28 (n=334, 362)	-74.3 (± 36.50)	-77.7 (± 35.84)		

Statistical analyses

No statistical analyses for this end point

Adverse events

Adverse events information

Timeframe for reporting adverse events:

Adverse events were reported from first dose of secukinumab in the Core Study up to 84 days after the last dose (Week 24).

Adverse event reporting additional description:

Consistent with EudraCT disclosure specifications, Novartis has reported under the Serious adverse events field "number of deaths resulting from adverse events" all those deaths, resulting from serious adverse events that are deemed to be causally related to treatment by the investigator.

Assessment type	Systematic

Dictionary used

Dictionary name	MedDRA
Dictionary version	25.0

Reporting groups

Reporting group title	Core Period Secukinumab

Reporting group description:

Core Period Secukinumab

Reporting group title	Core Period Secukinumab + Lifestyle Intervention

Reporting group description:

Core Period Secukinumab + Lifestyle Intervention

Reporting group title	Extension Period Lifestyle Intervention

Reporting group description:

Extension Period Lifestyle Intervention

Reporting group title	Extension Period Lifestyle Intervention + Secukinumab

Reporting group description:

Extension Period Lifestyle Intervention + Secukinumab

Reporting group title	Extension Period Secukinumab

Reporting group description:

Extension Period Secukinumab

Serious adverse events	Core Period Secukinumab	Core Period Secukinumab + Lifestyle Intervention	Extension Period Lifestyle Intervention
Total subjects affected by serious adverse events			
subjects affected / exposed	18 / 371 (4.85%)	20 / 409 (4.89%)	11 / 189 (5.82%)
number of deaths (all causes)	2	0	0
number of deaths resulting from adverse events	0	0	0
Neoplasms benign, malignant and unspecified (incl cysts and polyps)			
Malignant melanoma			
subjects affected / exposed	0 / 371 (0.00%)	1 / 409 (0.24%)	1 / 189 (0.53%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Bladder cancer			

subjects affected / exposed	1 / 371 (0.27%)	0 / 409 (0.00%)	1 / 189 (0.53%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Colorectal adenocarcinoma			
subjects affected / exposed	0 / 371 (0.00%)	0 / 409 (0.00%)	0 / 189 (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
Urethral cancer			
subjects affected / exposed	0 / 371 (0.00%)	0 / 409 (0.00%)	0 / 189 (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
Scrotal cancer			
subjects affected / exposed	0 / 371 (0.00%)	0 / 409 (0.00%)	0 / 189 (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
Parathyroid tumour benign			
subjects affected / exposed	0 / 371 (0.00%)	1 / 409 (0.24%)	0 / 189 (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
Metastases to spine			
subjects affected / exposed	0 / 371 (0.00%)	1 / 409 (0.24%)	0 / 189 (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
Metastases to bone			
subjects affected / exposed	0 / 371 (0.00%)	1 / 409 (0.24%)	0 / 189 (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
Vascular disorders			
Hypertension			
subjects affected / exposed	1 / 371 (0.27%)	0 / 409 (0.00%)	0 / 189 (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
Flushing			

subjects affected / exposed	1 / 371 (0.27%)	0 / 409 (0.00%)	0 / 189 (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
Circulatory collapse			
subjects affected / exposed	0 / 371 (0.00%)	1 / 409 (0.24%)	0 / 189 (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
Arteriovenous fistula			
subjects affected / exposed	0 / 371 (0.00%)	0 / 409 (0.00%)	0 / 189 (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
Peripheral ischaemia			
subjects affected / exposed	0 / 371 (0.00%)	1 / 409 (0.24%)	0 / 189 (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
Peripheral arterial occlusive disease			
subjects affected / exposed	0 / 371 (0.00%)	1 / 409 (0.24%)	1 / 189 (0.53%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Varicose vein			
subjects affected / exposed	1 / 371 (0.27%)	1 / 409 (0.24%)	0 / 189 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
General disorders and administration site conditions			
Pyrexia			
subjects affected / exposed	1 / 371 (0.27%)	0 / 409 (0.00%)	0 / 189 (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
Oedema peripheral			
subjects affected / exposed	2 / 371 (0.54%)	0 / 409 (0.00%)	0 / 189 (0.00%)
occurrences causally related to treatment / all	1 / 3	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Chest discomfort			

subjects affected / exposed	1 / 371 (0.27%)	0 / 409 (0.00%)	0 / 189 (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
Immune system disorders			
Drug hypersensitivity			
subjects affected / exposed	1 / 371 (0.27%)	0 / 409 (0.00%)	0 / 189 (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
Reproductive system and breast disorders			
Cystocele			
subjects affected / exposed	0 / 371 (0.00%)	1 / 409 (0.24%)	1 / 189 (0.53%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Respiratory, thoracic and mediastinal disorders			
Dyspnoea			
subjects affected / exposed	3 / 371 (0.81%)	1 / 409 (0.24%)	0 / 189 (0.00%)
occurrences causally related to treatment / all	1 / 3	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Chronic obstructive pulmonary disease			
subjects affected / exposed	1 / 371 (0.27%)	0 / 409 (0.00%)	0 / 189 (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
Asthma			
subjects affected / exposed	0 / 371 (0.00%)	0 / 409 (0.00%)	0 / 189 (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			
Mania			
subjects affected / exposed	0 / 371 (0.00%)	0 / 409 (0.00%)	0 / 189 (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
Product issues			
Device loosening			

subjects affected / exposed	1 / 371 (0.27%)	0 / 409 (0.00%)	0 / 189 (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
Investigations			
Aspartate aminotransferase increased			
subjects affected / exposed	1 / 371 (0.27%)	0 / 409 (0.00%)	0 / 189 (0.00%)
occurrences causally related to treatment / all	0 / 2	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Alanine aminotransferase increased			
subjects affected / exposed	1 / 371 (0.27%)	0 / 409 (0.00%)	0 / 189 (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
Gamma-glutamyltransferase increased			
subjects affected / exposed	1 / 371 (0.27%)	0 / 409 (0.00%)	0 / 189 (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
Injury, poisoning and procedural complications			
Concussion			
subjects affected / exposed	0 / 371 (0.00%)	1 / 409 (0.24%)	0 / 189 (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
Fall			
subjects affected / exposed	0 / 371 (0.00%)	1 / 409 (0.24%)	1 / 189 (0.53%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Foot fracture			
subjects affected / exposed	1 / 371 (0.27%)	0 / 409 (0.00%)	0 / 189 (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
Head injury			

subjects affected / exposed	0 / 371 (0.00%)	1 / 409 (0.24%)	0 / 189 (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
Pulmonary contusion			
subjects affected / exposed	0 / 371 (0.00%)	1 / 409 (0.24%)	0 / 189 (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
Reactive gastropathy			
subjects affected / exposed	0 / 371 (0.00%)	0 / 409 (0.00%)	0 / 189 (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
Rib fracture			
subjects affected / exposed	0 / 371 (0.00%)	1 / 409 (0.24%)	0 / 189 (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
Road traffic accident			
subjects affected / exposed	0 / 371 (0.00%)	0 / 409 (0.00%)	0 / 189 (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
Skin laceration			
subjects affected / exposed	0 / 371 (0.00%)	1 / 409 (0.24%)	1 / 189 (0.53%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Tendon rupture			
subjects affected / exposed	2 / 371 (0.54%)	0 / 409 (0.00%)	0 / 189 (0.00%)
occurrences causally related to treatment / all	0 / 2	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Cardiac disorders			
Atrial fibrillation			
subjects affected / exposed	1 / 371 (0.27%)	1 / 409 (0.24%)	0 / 189 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Myocardial infarction			

subjects affected / exposed	0 / 371 (0.00%)	1 / 409 (0.24%)	0 / 189 (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
Coronary artery disease			
subjects affected / exposed	0 / 371 (0.00%)	1 / 409 (0.24%)	0 / 189 (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
Pericarditis			
subjects affected / exposed	0 / 371 (0.00%)	0 / 409 (0.00%)	0 / 189 (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			
Cerebral infarction			
subjects affected / exposed	0 / 371 (0.00%)	0 / 409 (0.00%)	0 / 189 (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
Cerebral haemorrhage			
subjects affected / exposed	0 / 371 (0.00%)	0 / 409 (0.00%)	0 / 189 (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
Dizziness			
subjects affected / exposed	1 / 371 (0.27%)	0 / 409 (0.00%)	0 / 189 (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
Paraesthesia			
subjects affected / exposed	1 / 371 (0.27%)	0 / 409 (0.00%)	0 / 189 (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
Eye disorders			
Endocrine ophthalmopathy			
subjects affected / exposed	0 / 371 (0.00%)	1 / 409 (0.24%)	0 / 189 (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
Macular oedema			

subjects affected / exposed	0 / 371 (0.00%)	1 / 409 (0.24%)	0 / 189 (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
Ocular fistula			
subjects affected / exposed	0 / 371 (0.00%)	0 / 409 (0.00%)	0 / 189 (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
Ulcerative keratitis			
subjects affected / exposed	1 / 371 (0.27%)	0 / 409 (0.00%)	1 / 189 (0.53%)
occurrences causally related to treatment / all	1 / 1	0 / 0	1 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Gastrointestinal disorders			
Enterocolitis haemorrhagic			
subjects affected / exposed	0 / 371 (0.00%)	0 / 409 (0.00%)	0 / 189 (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
Hypertrophy of tongue papillae			
subjects affected / exposed	0 / 371 (0.00%)	1 / 409 (0.24%)	1 / 189 (0.53%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Hiatus hernia			
subjects affected / exposed	0 / 371 (0.00%)	0 / 409 (0.00%)	0 / 189 (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
Gastrointestinal polyp			
subjects affected / exposed	0 / 371 (0.00%)	1 / 409 (0.24%)	1 / 189 (0.53%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Femoral hernia			
subjects affected / exposed	1 / 371 (0.27%)	0 / 409 (0.00%)	0 / 189 (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
Inguinal hernia			

subjects affected / exposed	1 / 371 (0.27%)	0 / 409 (0.00%)	0 / 189 (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
Oesophagitis			
subjects affected / exposed	0 / 371 (0.00%)	0 / 409 (0.00%)	0 / 189 (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
Skin and subcutaneous tissue disorders			
Psoriasis			
subjects affected / exposed	2 / 371 (0.54%)	1 / 409 (0.24%)	1 / 189 (0.53%)
occurrences causally related to treatment / all	1 / 2	1 / 1	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Erythrodermic psoriasis			
subjects affected / exposed	1 / 371 (0.27%)	0 / 409 (0.00%)	0 / 189 (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
Renal and urinary disorders			
Nephrolithiasis			
subjects affected / exposed	1 / 371 (0.27%)	0 / 409 (0.00%)	1 / 189 (0.53%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Renal failure			
subjects affected / exposed	1 / 371 (0.27%)	0 / 409 (0.00%)	0 / 189 (0.00%)
occurrences causally related to treatment / all	0 / 2	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Endocrine disorders			
Goitre			
subjects affected / exposed	0 / 371 (0.00%)	1 / 409 (0.24%)	0 / 189 (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
Musculoskeletal and connective tissue disorders			
Osteoarthritis			

subjects affected / exposed	2 / 371 (0.54%)	1 / 409 (0.24%)	0 / 189 (0.00%)
occurrences causally related to treatment / all	0 / 2	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Intervertebral disc protrusion			
subjects affected / exposed	1 / 371 (0.27%)	0 / 409 (0.00%)	1 / 189 (0.53%)
occurrences causally related to treatment / all	0 / 3	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Bursitis			
subjects affected / exposed	0 / 371 (0.00%)	0 / 409 (0.00%)	0 / 189 (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			
Bronchiolitis			
subjects affected / exposed	1 / 371 (0.27%)	0 / 409 (0.00%)	0 / 189 (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
Erysipelas			
subjects affected / exposed	1 / 371 (0.27%)	0 / 409 (0.00%)	0 / 189 (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
Gastrointestinal infection			
subjects affected / exposed	0 / 371 (0.00%)	0 / 409 (0.00%)	0 / 189 (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
Urinary tract infection			
subjects affected / exposed	0 / 371 (0.00%)	1 / 409 (0.24%)	1 / 189 (0.53%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Vestibular neuronitis			
subjects affected / exposed	0 / 371 (0.00%)	1 / 409 (0.24%)	0 / 189 (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
Tonsillitis			

subjects affected / exposed	0 / 371 (0.00%)	1 / 409 (0.24%)	0 / 189 (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
Pulpitis dental			
subjects affected / exposed	0 / 371 (0.00%)	1 / 409 (0.24%)	0 / 189 (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
Otitis media			
subjects affected / exposed	0 / 371 (0.00%)	1 / 409 (0.24%)	0 / 189 (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
Upper respiratory tract infection			
subjects affected / exposed	0 / 371 (0.00%)	1 / 409 (0.24%)	0 / 189 (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
Metabolism and nutrition disorders			
Hypercalcaemia			
subjects affected / exposed	1 / 371 (0.27%)	0 / 409 (0.00%)	0 / 189 (0.00%)
occurrences causally related to treatment / all	0 / 2	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0

Serious adverse events	Extension Period Lifestyle Intervention + Secukinumab	Extension Period Secukinumab	
Total subjects affected by serious adverse events			
subjects affected / exposed	10 / 164 (6.10%)	32 / 427 (7.49%)	
number of deaths (all causes)	0	2	
number of deaths resulting from adverse events	0	0	
Neoplasms benign, malignant and unspecified (incl cysts and polyps)			
Malignant melanoma			
subjects affected / exposed	0 / 164 (0.00%)	0 / 427 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Bladder cancer			

subjects affected / exposed	0 / 164 (0.00%)	0 / 427 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Colorectal adenocarcinoma			
subjects affected / exposed	0 / 164 (0.00%)	1 / 427 (0.23%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Urethral cancer			
subjects affected / exposed	0 / 164 (0.00%)	1 / 427 (0.23%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Scrotal cancer			
subjects affected / exposed	0 / 164 (0.00%)	1 / 427 (0.23%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Parathyroid tumour benign			
subjects affected / exposed	1 / 164 (0.61%)	0 / 427 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Metastases to spine			
subjects affected / exposed	0 / 164 (0.00%)	1 / 427 (0.23%)	
occurrences causally related to treatment / all	0 / 0	1 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Metastases to bone			
subjects affected / exposed	0 / 164 (0.00%)	1 / 427 (0.23%)	
occurrences causally related to treatment / all	0 / 0	1 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Vascular disorders			
Hypertension			
subjects affected / exposed	0 / 164 (0.00%)	1 / 427 (0.23%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Flushing			

subjects affected / exposed	0 / 164 (0.00%)	1 / 427 (0.23%)	
occurrences causally related to treatment / all	0 / 0	1 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Circulatory collapse			
subjects affected / exposed	1 / 164 (0.61%)	0 / 427 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Arteriovenous fistula			
subjects affected / exposed	0 / 164 (0.00%)	1 / 427 (0.23%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Peripheral ischaemia			
subjects affected / exposed	1 / 164 (0.61%)	0 / 427 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Peripheral arterial occlusive disease			
subjects affected / exposed	0 / 164 (0.00%)	0 / 427 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Varicose vein			
subjects affected / exposed	2 / 164 (1.22%)	0 / 427 (0.00%)	
occurrences causally related to treatment / all	0 / 2	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
General disorders and administration site conditions			
Pyrexia			
subjects affected / exposed	0 / 164 (0.00%)	1 / 427 (0.23%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Oedema peripheral			
subjects affected / exposed	0 / 164 (0.00%)	2 / 427 (0.47%)	
occurrences causally related to treatment / all	0 / 0	1 / 3	
deaths causally related to treatment / all	0 / 0	0 / 0	
Chest discomfort			

subjects affected / exposed	0 / 164 (0.00%)	1 / 427 (0.23%)	
occurrences causally related to treatment / all	0 / 0	1 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Immune system disorders			
Drug hypersensitivity			
subjects affected / exposed	0 / 164 (0.00%)	1 / 427 (0.23%)	
occurrences causally related to treatment / all	0 / 0	1 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Reproductive system and breast disorders			
Cystocele			
subjects affected / exposed	0 / 164 (0.00%)	0 / 427 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Respiratory, thoracic and mediastinal disorders			
Dyspnoea			
subjects affected / exposed	1 / 164 (0.61%)	4 / 427 (0.94%)	
occurrences causally related to treatment / all	0 / 1	1 / 4	
deaths causally related to treatment / all	0 / 0	0 / 0	
Chronic obstructive pulmonary disease			
subjects affected / exposed	0 / 164 (0.00%)	1 / 427 (0.23%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Asthma			
subjects affected / exposed	1 / 164 (0.61%)	0 / 427 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Psychiatric disorders			
Mania			
subjects affected / exposed	0 / 164 (0.00%)	1 / 427 (0.23%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Product issues			
Device loosening			

subjects affected / exposed	0 / 164 (0.00%)	1 / 427 (0.23%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Investigations			
Aspartate aminotransferase increased			
subjects affected / exposed	0 / 164 (0.00%)	1 / 427 (0.23%)	
occurrences causally related to treatment / all	0 / 0	0 / 2	
deaths causally related to treatment / all	0 / 0	0 / 0	
Alanine aminotransferase increased			
subjects affected / exposed	0 / 164 (0.00%)	1 / 427 (0.23%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Gamma-glutamyltransferase increased			
subjects affected / exposed	0 / 164 (0.00%)	1 / 427 (0.23%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Injury, poisoning and procedural complications			
Concussion			
subjects affected / exposed	0 / 164 (0.00%)	1 / 427 (0.23%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Fall			
subjects affected / exposed	0 / 164 (0.00%)	0 / 427 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Foot fracture			
subjects affected / exposed	0 / 164 (0.00%)	1 / 427 (0.23%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Head injury			

subjects affected / exposed	0 / 164 (0.00%)	1 / 427 (0.23%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Pulmonary contusion			
subjects affected / exposed	0 / 164 (0.00%)	1 / 427 (0.23%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Reactive gastropathy			
subjects affected / exposed	0 / 164 (0.00%)	1 / 427 (0.23%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Rib fracture			
subjects affected / exposed	0 / 164 (0.00%)	1 / 427 (0.23%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Road traffic accident			
subjects affected / exposed	1 / 164 (0.61%)	0 / 427 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Skin laceration			
subjects affected / exposed	0 / 164 (0.00%)	0 / 427 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Tendon rupture			
subjects affected / exposed	0 / 164 (0.00%)	2 / 427 (0.47%)	
occurrences causally related to treatment / all	0 / 0	0 / 2	
deaths causally related to treatment / all	0 / 0	0 / 0	
Cardiac disorders			
Atrial fibrillation			
subjects affected / exposed	0 / 164 (0.00%)	2 / 427 (0.47%)	
occurrences causally related to treatment / all	0 / 0	0 / 2	
deaths causally related to treatment / all	0 / 0	0 / 0	
Myocardial infarction			

subjects affected / exposed	0 / 164 (0.00%)	2 / 427 (0.47%)	
occurrences causally related to treatment / all	0 / 0	0 / 2	
deaths causally related to treatment / all	0 / 0	0 / 1	
Coronary artery disease			
subjects affected / exposed	0 / 164 (0.00%)	1 / 427 (0.23%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Pericarditis			
subjects affected / exposed	1 / 164 (0.61%)	0 / 427 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Nervous system disorders			
Cerebral infarction			
subjects affected / exposed	0 / 164 (0.00%)	1 / 427 (0.23%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Cerebral haemorrhage			
subjects affected / exposed	0 / 164 (0.00%)	1 / 427 (0.23%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Dizziness			
subjects affected / exposed	0 / 164 (0.00%)	1 / 427 (0.23%)	
occurrences causally related to treatment / all	0 / 0	1 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Paraesthesia			
subjects affected / exposed	0 / 164 (0.00%)	1 / 427 (0.23%)	
occurrences causally related to treatment / all	0 / 0	1 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Eye disorders			
Endocrine ophthalmopathy			
subjects affected / exposed	0 / 164 (0.00%)	1 / 427 (0.23%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Macular oedema			

subjects affected / exposed	0 / 164 (0.00%)	1 / 427 (0.23%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Ocular fistula			
subjects affected / exposed	0 / 164 (0.00%)	1 / 427 (0.23%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Ulcerative keratitis			
subjects affected / exposed	0 / 164 (0.00%)	0 / 427 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Gastrointestinal disorders			
Enterocolitis haemorrhagic			
subjects affected / exposed	0 / 164 (0.00%)	1 / 427 (0.23%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Hypertrophy of tongue papillae			
subjects affected / exposed	0 / 164 (0.00%)	0 / 427 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Hiatus hernia			
subjects affected / exposed	0 / 164 (0.00%)	1 / 427 (0.23%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Gastrointestinal polyp			
subjects affected / exposed	0 / 164 (0.00%)	0 / 427 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Femoral hernia			
subjects affected / exposed	0 / 164 (0.00%)	1 / 427 (0.23%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Inguinal hernia			

subjects affected / exposed	0 / 164 (0.00%)	1 / 427 (0.23%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Oesophagitis			
subjects affected / exposed	0 / 164 (0.00%)	1 / 427 (0.23%)	
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			
Psoriasis			
subjects affected / exposed	0 / 164 (0.00%)	3 / 427 (0.70%)	
occurrences causally related to treatment / all	0 / 0	2 / 3	
deaths causally related to treatment / all	0 / 0	0 / 0	
Erythrodermic psoriasis			
subjects affected / exposed	0 / 164 (0.00%)	1 / 427 (0.23%)	
occurrences causally related to treatment / all	0 / 0	1 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Renal and urinary disorders			
Nephrolithiasis			
subjects affected / exposed	1 / 164 (0.61%)	0 / 427 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Renal failure			
subjects affected / exposed	0 / 164 (0.00%)	1 / 427 (0.23%)	
occurrences causally related to treatment / all	0 / 0	0 / 2	
deaths causally related to treatment / all	0 / 0	0 / 0	
Endocrine disorders			
Goitre			
subjects affected / exposed	1 / 164 (0.61%)	0 / 427 (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			
Osteoarthritis			

subjects affected / exposed	1 / 164 (0.61%)	3 / 427 (0.70%)	
occurrences causally related to treatment / all	0 / 1	0 / 3	
deaths causally related to treatment / all	0 / 0	0 / 0	
Intervertebral disc protrusion			
subjects affected / exposed	0 / 164 (0.00%)	1 / 427 (0.23%)	
occurrences causally related to treatment / all	0 / 0	0 / 3	
deaths causally related to treatment / all	0 / 0	0 / 0	
Bursitis			
subjects affected / exposed	0 / 164 (0.00%)	1 / 427 (0.23%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Infections and infestations			
Bronchiolitis			
subjects affected / exposed	0 / 164 (0.00%)	1 / 427 (0.23%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Erysipelas			
subjects affected / exposed	0 / 164 (0.00%)	2 / 427 (0.47%)	
occurrences causally related to treatment / all	0 / 0	0 / 2	
deaths causally related to treatment / all	0 / 0	0 / 0	
Gastrointestinal infection			
subjects affected / exposed	0 / 164 (0.00%)	1 / 427 (0.23%)	
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 / 164 (0.00%)	0 / 427 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Vestibular neuronitis			
subjects affected / exposed	0 / 164 (0.00%)	1 / 427 (0.23%)	
occurrences causally related to treatment / all	0 / 0	1 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Tonsillitis			

subjects affected / exposed	1 / 164 (0.61%)	0 / 427 (0.00%)	
occurrences causally related to treatment / all	1 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Pulpitis dental			
subjects affected / exposed	1 / 164 (0.61%)	0 / 427 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Otitis media			
subjects affected / exposed	0 / 164 (0.00%)	1 / 427 (0.23%)	
occurrences causally related to treatment / all	0 / 0	1 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Upper respiratory tract infection			
subjects affected / exposed	1 / 164 (0.61%)	0 / 427 (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			
Hypercalcaemia			
subjects affected / exposed	0 / 164 (0.00%)	1 / 427 (0.23%)	
occurrences causally related to treatment / all	0 / 0	0 / 2	
deaths causally related to treatment / all	0 / 0	0 / 0	

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

Non-serious adverse events	Core Period Secukinumab	Core Period Secukinumab + Lifestyle Intervention	Extension Period Lifestyle Intervention
Total subjects affected by non-serious adverse events			
subjects affected / exposed	178 / 371 (47.98%)	204 / 409 (49.88%)	101 / 189 (53.44%)
Investigations			
Alanine aminotransferase increased			
subjects affected / exposed	10 / 371 (2.70%)	7 / 409 (1.71%)	2 / 189 (1.06%)
occurrences (all)	14	9	2
Vascular disorders			
Hypertension			
subjects affected / exposed	19 / 371 (5.12%)	16 / 409 (3.91%)	9 / 189 (4.76%)
occurrences (all)	19	18	9

Nervous system disorders Headache subjects affected / exposed occurrences (all)	40 / 371 (10.78%) 57	36 / 409 (8.80%) 51	18 / 189 (9.52%) 22
General disorders and administration site conditions Fatigue subjects affected / exposed occurrences (all)	14 / 371 (3.77%) 14	10 / 409 (2.44%) 14	2 / 189 (1.06%) 2
Gastrointestinal disorders Diarrhoea subjects affected / exposed occurrences (all)	19 / 371 (5.12%) 26	22 / 409 (5.38%) 25	14 / 189 (7.41%) 20
Respiratory, thoracic and mediastinal disorders Oropharyngeal pain subjects affected / exposed occurrences (all)	6 / 371 (1.62%) 6	16 / 409 (3.91%) 18	3 / 189 (1.59%) 4
Skin and subcutaneous tissue disorders Pruritus subjects affected / exposed occurrences (all) Psoriasis subjects affected / exposed occurrences (all)	16 / 371 (4.31%) 17 17 / 371 (4.58%) 20	17 / 409 (4.16%) 22 18 / 409 (4.40%) 18	3 / 189 (1.59%) 4 19 / 189 (10.05%) 19
Musculoskeletal and connective tissue disorders Arthralgia subjects affected / exposed occurrences (all) Back pain subjects affected / exposed occurrences (all)	11 / 371 (2.96%) 14 23 / 371 (6.20%) 24	40 / 409 (9.78%) 50 22 / 409 (5.38%) 22	18 / 189 (9.52%) 25 19 / 189 (10.05%) 19
Infections and infestations Nasopharyngitis subjects affected / exposed occurrences (all)	83 / 371 (22.37%) 107	96 / 409 (23.47%) 121	41 / 189 (21.69%) 51

Non-serious adverse events	Extension Period Lifestyle Intervention + Secukinumab	Extension Period Secukinumab	

Total subjects affected by non-serious adverse events subjects affected / exposed	103 / 164 (62.80%)	225 / 427 (52.69%)	
Investigations Alanine aminotransferase increased subjects affected / exposed occurrences (all)	9 / 164 (5.49%) 14	9 / 427 (2.11%) 10	
Vascular disorders Hypertension subjects affected / exposed occurrences (all)	9 / 164 (5.49%) 10	20 / 427 (4.68%) 21	
Nervous system disorders Headache subjects affected / exposed occurrences (all)	20 / 164 (12.20%) 34	40 / 427 (9.37%) 59	
General disorders and administration site conditions Fatigue subjects affected / exposed occurrences (all)	9 / 164 (5.49%) 13	16 / 427 (3.75%) 16	
Gastrointestinal disorders Diarrhoea subjects affected / exposed occurrences (all)	10 / 164 (6.10%) 12	23 / 427 (5.39%) 27	
Respiratory, thoracic and mediastinal disorders Oropharyngeal pain subjects affected / exposed occurrences (all)	9 / 164 (5.49%) 9	11 / 427 (2.58%) 13	
Skin and subcutaneous tissue disorders Pruritus subjects affected / exposed occurrences (all) Psoriasis subjects affected / exposed occurrences (all)	14 / 164 (8.54%) 14 19 / 164 (11.59%) 20	22 / 427 (5.15%) 27 37 / 427 (8.67%) 40	
Musculoskeletal and connective tissue disorders Arthralgia subjects affected / exposed occurrences (all)	19 / 164 (11.59%) 23	19 / 427 (4.45%) 26	

Back pain subjects affected / exposed occurrences (all)	9 / 164 (5.49%) 9	23 / 427 (5.39%) 26	
Infections and infestations Nasopharyngitis subjects affected / exposed occurrences (all)	49 / 164 (29.88%) 67	108 / 427 (25.29%) 145	

More information

Substantial protocol amendments (globally)

Were there any global substantial amendments to the protocol? Yes

Date	Amendment
25 January 2018	Amendment 1: The original protocol was amended in order to align details of the protocol with the patient documents of the lifestyle intervention program ("Lesebuch") and in order to complement the protocol with a few details that made the study procedure more clear. • Section 5.5.3.2: Additional explanation about the time point (visit 2) when patients in arm B receive the materials which are part of the lifestyle intervention • Section 6.5.4.1: Two laboratory markers are additionally captured at visit 1. • Section 6: Additional explanatory footnote for table 6-1. • Section 6.4.5: Waist circumference measurement method is adapted in order to align it with the patient documents of the lifestyle intervention program ("Lesebuch").
05 September 2018	Amendment 2: The protocol was amended in order to incorporate a biomarker sub-study. Moreover, regulations of study treatment discontinuations are being improved, minor inconsistencies are being corrected and clarifications are being added. • Descriptions of the biomarker sub-study were added to the sections 2, 3.1, 3.6, 4.1, 6, 6.6.5, 7.1, 9.5.6, and 9.6. • Section 5.6.2 and table 5-1: After study treatment discontinuation (i.e. discontinuation of secukinumab, lifestyle intervention or both) the patient will now continue to attend regular study visits as per visit schedule and all assessments will be performed as planned. If one study treatment is discontinued (i.e. secukinumab or lifestyle intervention) this should not lead to discontinuation of the other, unless there is a reason for discontinuation of the other. If a study treatment is discontinued, adequate replacement for this treatment may be sought outside of the study despite continued study participation. • Table 6-1: Clarification that physical examination and drug accounting will only be performed at unscheduled visits if necessary, as determined by the treating physician. • Section 6.2.2: Clarification that topical therapies are only collected for the last 24 month prior to signing the informed consent. • Section 6.5.4.3.: Clarification that urine microscopy assessment, if needed, will be performed locally and correction of parameters assessed with the dipstick measurement. • Section 9.5.1: Clarification that PASI assessments will also be performed at weeks 1, 2 and 3 and addition of missing secondary endpoints. • Section 9.5.2.2: Change of wording from serum chemistry to clinical chemistry to align with the rest of the protocol. • The list of abbreviations has been updated.

Notes:

Interruptions (globally)

Were there any global interruptions to the trial? No

Limitations and caveats

None reported