Clinical trial results:
Study to evaluate the effect of different pre-seasonal BM32 dosing schedules on the induction of a protective allergen-specific IgG Immune response

Summary

EudraCT number	2015-004551-43
Trial protocol	AT
Global end of trial date	04 October 2016

Results information

Result version number	v1 (current)
This version publication date	31 October 2018
First version publication date	31 October 2018

Trial information

Trial identification

Sponsor protocol code	CS-BM32-004

Additional study identifiers

ISRCTN number	-
ClinicalTrials.gov id (NCT number)	NCT02643641
WHO universal trial number (UTN)	-

Notes:

Sponsors

Sponsor organisation name	Biomay AG
Sponsor organisation address	Lazarettgasse 19, Vienna, Austria, 1090
Public contact	Product Development Department, Biomay AG, 0043 17966296101, a.neubauer@biomay.com
Scientific contact	Product Development Department, Biomay AG, 0043 17966296101, a.neubauer@biomay.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	13 June 2017
Is this the analysis of the primary completion data?	No

Global end of trial reached?	Yes
Global end of trial date	04 October 2016
Was the trial ended prematurely?	No

Notes:

General information about the trial

Main objective of the trial:

To assess the level of allergen-specific IgG4 and IgG1 antibodies at the peak of the grass pollen season comparing the different dosing schedules of BM32 at the dose of 20µg per API with placebo.

Protection of trial subjects:

This trial was conducted in accordance to the principles of GCP, ensuring that the rights, safety and well-being of patients are protected and in consistency with the the Declaration of Helsinki.
Inclusion and exclusion criteria were carefully defined in order to protect subjects from contraindications, interactions with other medication and risk factors associated with the investigational medicinal product.
Throughout the study safety was assessed, such as occurrence of AEs, vital signs, lung function, concomitant medication and physical examinations. A pregnancy test was performed at screening,before each administration of IMP and 3-5 weeks after the last IMP administration.

Background therapy:

Subjects were instructed to use their normally prescribed allergy medication if needed during the grass pollen season.

Evidence for comparator: -

Actual start date of recruitment	14 December 2015
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	Austria: 130
Worldwide total number of subjects	130
EEA total number of subjects	130

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)	130
From 65 to 84 years	0
85 years and over	0

Subject disposition

Recruitment

Recruitment details: -

Pre-assignment

Screening details:

Subjects with grass pollen allergy but otherwise healthy have been screened. Based on results of Safety Lab, SPT or ImmunoCAP tests performed at visit 1 non- eligible subjects were identified and excluded as screening failures

Period 1

Period 1 title	Overall Trial (overall period)
Is this the baseline period?	Yes
Allocation method	Randomised - controlled
Blinding used	Double blind
Roles blinded	Subject, Investigator, Monitor

Arms

Are arms mutually exclusive?	Yes
Arm title	BM32 3x

Arm description:

5 subcutaneous injections with sequence: Placebo, Placebo, BM32, BM32,BM32

Arm type	Experimental
Investigational medicinal product name	BM32
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Suspension for injection
Routes of administration	Subcutaneous use

Dosage and administration details:

BM32 is an equimolar combination of four active ingredients (APIs) BM321, BM322, BM325, and BM326 and was administered at a dose containing of 20µg of each of the four APIs.

Investigational medicinal product name	Placebo
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Suspension for injection
Routes of administration	Subcutaneous use

Dosage and administration details:

3 mg/ml aluminum hydroxide.

Arm title	BM32 4x

Arm description:

5 subcutaneous injections with sequence: Placebo, BM32, BM32, BM32,BM32

Arm type	Experimental
Investigational medicinal product name	BM32
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Suspension for injection
Routes of administration	Subcutaneous use

Dosage and administration details:

BM32 is an equimolar combination of four active ingredients (APIs) BM321, BM322, BM325, and BM326 and was administered at a dose containing of 20µg of each of the four APIs.

Investigational medicinal product name	Placebo
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Suspension for injection
Routes of administration	Subcutaneous use

Dosage and administration details:

3 mg/ml aluminum hydroxide.

Arm title	BM32 5x

Arm description:

5 subcutaneous injections with sequence: BM32, BM32, BM32, BM32,BM32

Arm type	Experimental
Investigational medicinal product name	BM32
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Suspension for injection
Routes of administration	Subcutaneous use

Dosage and administration details:

BM32 is an equimolar combination of four active ingredients (APIs) BM321, BM322, BM325, and BM326 and was administered at a dose containing of 20µg of each of the four APIs.

Investigational medicinal product name	Placebo
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Suspension for injection
Routes of administration	Subcutaneous use

Dosage and administration details:

3 mg/ml aluminum hydroxide.

Arm title	Placebo

Arm description:

5 subcutaneous injections with sequence: Placebo, Placebo, Placebo, Placebo,Placebo

Arm type	Placebo
Investigational medicinal product name	Placebo
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Suspension for injection
Routes of administration	Subcutaneous use

Dosage and administration details:

3 mg/ml aluminum hydroxide.

Number of subjects in period 1	BM32 3x	BM32 4x	BM32 5x
Started	33	32	31
Completed	33	32	31

Number of subjects in period 1	Placebo
Started	34
Completed	34

Baseline characteristics

Reporting groups	
Reporting group title	BM32 3x
Reporting group description:	
5 subcutaneous injections with sequence: Placebo, Placebo, BM32, BM32,BM32	
Reporting group title	BM32 4x
Reporting group description:	
5 subcutaneous injections with sequence: Placebo, BM32, BM32, BM32,BM32	
Reporting group title	BM32 5x
Reporting group description:	
5 subcutaneous injections with sequence: BM32, BM32, BM32, BM32,BM32	
Reporting group title	Placebo
Reporting group description:	
5 subcutaneous injections with sequence: Placebo, Placebo, Placebo, Placebo,Placebo	

Reporting group values	BM32 3x	BM32 4x	BM32 5x
Number of subjects	33	32	31
Age categorical Units: Subjects			
Adults (18-64 years)	33	32	31
Age continuous Units: years			
arithmetic mean	28	33	28
full range (min-max)	18 to 56	18 to 58	19 to 57
Gender categorical Units: Subjects			
Female	17	20	22
Male	16	12	9

Reporting group values	Placebo	Total	
Number of subjects	34	130	
Age categorical Units: Subjects			
Adults (18-64 years)	34	130	
Age continuous Units: years			
arithmetic mean	33		
full range (min-max)	18 to 56	-	
Gender categorical Units: Subjects			
Female	17	76	
Male	17	54	

Subject analysis sets	
Subject analysis set title	SA
Subject analysis set type	Safety analysis

Subject analysis set description:

All subjects who were randomized and received at least one dose of the trial medication (verum or placebo).

Subject analysis set title	FAS
Subject analysis set type	Full analysis

Subject analysis set description:

All subjects of the SA set with measurement of the primary efficacy variable at Visit 3 and Visit 8.

Subject analysis set title	PP
Subject analysis set type	Per protocol

Subject analysis set description:

All subjects of the FA set for whom no relevant protocol deviations were documented

Reporting group values	SA	FAS	PP
Number of subjects	130	124	115
Age categorical Units: Subjects			
Adults (18-64 years)	130	124	115
Age continuous Units: years			
arithmetic mean	30	31	31
full range (min-max)	18 to 58	18 to 58	18 to 58
Gender categorical Units: Subjects			
Female	76	73	67
Male	54	51	48

End points

End points reporting groups

Reporting group title	BM32 3x
Reporting group description:	
5 subcutaneous injections with sequence: Placebo, Placebo, BM32, BM32,BM32	
Reporting group title	BM32 4x
Reporting group description:	
5 subcutaneous injections with sequence: Placebo, BM32, BM32, BM32,BM32	
Reporting group title	BM32 5x
Reporting group description:	
5 subcutaneous injections with sequence: BM32, BM32, BM32, BM32,BM32	
Reporting group title	Placebo
Reporting group description:	
5 subcutaneous injections with sequence: Placebo, Placebo, Placebo, Placebo,Placebo	
Subject analysis set title	SA
Subject analysis set type	Safety analysis
Subject analysis set description:	
All subjects who were randomized and received at least one dose of the trial medication (verum or placebo).	
Subject analysis set title	FAS
Subject analysis set type	Full analysis
Subject analysis set description:	
All subjects of the SA set with measurement of the primary efficacy variable at Visit 3 and Visit 8.	
Subject analysis set title	PP
Subject analysis set type	Per protocol
Subject analysis set description:	
All subjects of the FA set for whom no relevant protocol deviations were documented	

Primary: EP1 (FAS) : Median change in IgG1 levels against allergens Phl p 1 and Phl p 5

End point title	EP1 (FAS) : Median change in IgG1 levels against allergens Phl p 1 and Phl p 5
End point description:	
Median change in IgG1 levels (sum of Phl p 1- and Phl p 5-specific IgG1) between Visit 3 (V3; before treatment) and Visit 8 (V8; after treatment)	
End point type	Primary
End point timeframe:	
Change in IgG1 levels between Visit 3 (before 1st treatment) and Visit 8 (after last treatment)	

End point values	BM32 3x	BM32 4x	BM32 5x	Placebo
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	32	30	30	32
Units: µg/mL				
median (confidence interval 95%)	40.15 (19.23 to 59.79)	29.9 (19.6 to 45.66)	46.61 (21.76 to 86.72)	0.00 (0.00 to 1.70)

Statistical analyses

Statistical analysis title	EP1 (FAS) Median Test BM32 3x

Statistical analysis description:

Based on the observed variance heterogeneity between the placebo and verum groups the non-parametric median test was used to compare the medians of placebo against any of the three verum groups for the analysis of the primary endpoint.

Comparison groups	BM32 3x v Placebo
Number of subjects included in analysis	64
Analysis specification	Pre-specified
Analysis type	other[1]
P-value	< 0.0001
Method	Median Test
Parameter estimate	Median difference (final values)
Point estimate	40.15
Confidence interval	
level	95 %
sides	2-sided
lower limit	19.23
upper limit	59.79
Variability estimate	Standard deviation
Dispersion value	89.38

Notes:

[1] - comparison to placebo

Statistical analysis title	EP1 (FAS) Median Test BM32 4x

Statistical analysis description:

Based on the observed variance heterogeneity between the placebo and verum groups the non-parametric median test was used to compare the medians of placebo against any of the three verum groups for the analysis of the primary endpoint.

Comparison groups	Placebo v BM32 4x
Number of subjects included in analysis	62
Analysis specification	Pre-specified
Analysis type	other[2]
P-value	< 0.0001
Method	Median Test
Parameter estimate	Median difference (final values)
Point estimate	29.09
Confidence interval	
level	95 %
sides	2-sided
lower limit	19.6
upper limit	45.66
Variability estimate	Standard deviation
Dispersion value	38.49

Notes:

[2] - comparison to placebo

Statistical analysis title	EP1 (FAS) Median Test BM32 5x

Statistical analysis description:

Based on the observed variance heterogeneity between the placebo and verum groups the non-parametric median test was used to compare the medians of placebo against any of the three verum groups for the analysis of the primary endpoint.

Comparison groups	Placebo v BM32 5x
Number of subjects included in analysis	62
Analysis specification	Pre-specified
Analysis type	other[3]
P-value	< 0.0001
Method	Median Test
Parameter estimate	Median difference (final values)
Point estimate	46.61
Confidence interval	
level	95 %
sides	2-sided
lower limit	21.76
upper limit	86.72
Variability estimate	Standard deviation
Dispersion value	143.89

Notes:

[3] - comparison to placebo

Primary: EP1 (PP) : Median change in IgG1 levels against allergens Phl p 1 and Phl p 5

End point title	EP1 (PP) : Median change in IgG1 levels against allergens Phl p 1 and Phl p 5

End point description:

Change in IgG1 levels (sum of Phl p 1- and Phl p 5-specific IgG1) between Visit 3 (V3; before treatment) and Visit 8 (V8; after treatment)

End point type	Primary

End point timeframe:

Change in IgG1 levels between Visit 3 (before 1st treatment) and Visit 8 (after last treatment)

End point values	BM32 3x	BM32 4x	BM32 5x	Placebo
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	29	29	25	32
Units: µg/mL				
median (confidence interval 95%)	36.30 (18.64 to 61.00)	28.79 (19.60 to 53.41)	46.71 (22.97 to 87.32)	0.00 (0.00 to 1.70)

Statistical analyses

Statistical analysis title	EP1 (PP) Median Test BM32 3x

Statistical analysis description:

Based on the observed variance heterogeneity between the placebo and verum groups the non-parametric median test was used to compare the medians of placebo against any of the three verum groups for the analysis of the primary endpoint.

Comparison groups	BM32 3x v Placebo
Number of subjects included in analysis	61
Analysis specification	Pre-specified
Analysis type	other[4]
P-value	< 0.0001
Method	Median Test
Parameter estimate	Median difference (final values)
Point estimate	36.3
Confidence interval	
level	95 %
sides	2-sided
lower limit	18.64
upper limit	61
Variability estimate	Standard deviation
Dispersion value	85.48

Notes:

[4] - comparison to placebo

Statistical analysis title	EP1 (PP) Median Test BM32 4x

Statistical analysis description:

Based on the observed variance heterogeneity between the placebo and verum groups the non-parametric median test was used to compare the medians of placebo against any of the three verum groups for the analysis of the primary endpoint.

Comparison groups	Placebo v BM32 4x
Number of subjects included in analysis	61
Analysis specification	Pre-specified
Analysis type	other[5]
P-value	< 0.0001
Method	Median Test
Parameter estimate	Median difference (final values)
Point estimate	28.79
Confidence interval	
level	95 %
sides	2-sided
lower limit	19.6
upper limit	53.41
Variability estimate	Standard deviation
Dispersion value	39.16

Notes:

[5] - comparison to placebo

Statistical analysis title	EP1 (PP) Median Test BM32 5x

Statistical analysis description:

Based on the observed variance heterogeneity between the placebo and verum groups the non-parametric median test was used to compare the medians of placebo against any of the three verum groups for the analysis of the primary endpoint.

Comparison groups	Placebo v BM32 5x

Number of subjects included in analysis	57
Analysis specification	Pre-specified
Analysis type	other[6]
P-value	< 0.0001
Method	Median Test
Parameter estimate	Median difference (final values)
Point estimate	46.71
Confidence interval	
level	95 %
sides	2-sided
lower limit	22.97
upper limit	87.32
Variability estimate	Standard deviation
Dispersion value	83.41

Notes:

[6] - comparison to placebo

Primary: EP2 (FAS) : Median change in IgG4 levels against allergens Phl p 1 and Phl p 5

End point title	EP2 (FAS) : Median change in IgG4 levels against allergens Phl p 1 and Phl p 5

End point description:

Change in IgG4 levels (sum of Phl p 1- and Phl p 5-specific IgG1) between Visit 3 (V3; before treatment) and Visit 8 (V8; after treatment)

End point type	Primary

End point timeframe:

Change in IgG4 levels between Visit 3 (before 1st treatment) and Visit 8 (after last treatment)

End point values	BM32 3x	BM32 4x	BM32 5x	Placebo
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	32	30	30	32
Units: µg/mL				
median (confidence interval 95%)	7.92 (5.36 to 29.74)	11.54 (6.07 to 16.71)	71.23 (20.71 to 193.10)	0.00 (0.00 to 2.50)

Statistical analyses

Statistical analysis title	EP2 (FAS) Median Test BM32 3x

Statistical analysis description:

Based on the observed variance heterogeneity between the placebo and verum groups the non-parametric median test was used to compare the medians of placebo against any of the three verum groups for the analysis of the primary endpoint.

Comparison groups	BM32 3x v Placebo

Number of subjects included in analysis	64
Analysis specification	Pre-specified
Analysis type	other[7]
P-value	< 0.0001
Method	Median Test
Parameter estimate	Median difference (final values)
Point estimate	7.92
Confidence interval	
level	95 %
sides	2-sided
lower limit	5.36
upper limit	29.74
Variability estimate	Standard deviation
Dispersion value	240.75

Notes:

[7] - comparison to placebo

Statistical analysis title	EP2 (FAS) Median Test BM32 4x

Statistical analysis description:

Based on the observed variance heterogeneity between the placebo and verum groups the non-parametric median test was used to compare the medians of placebo against any of the three verum groups for the analysis of the primary endpoint.

Comparison groups	Placebo v BM32 4x
Number of subjects included in analysis	62
Analysis specification	Pre-specified
Analysis type	other[8]
P-value	< 0.0001
Method	Median Test
Parameter estimate	Median difference (final values)
Point estimate	11.54
Confidence interval	
level	95 %
sides	2-sided
lower limit	6.07
upper limit	16.71
Variability estimate	Standard deviation
Dispersion value	96.79

Notes:

[8] - comparison to placebo

Statistical analysis title	EP2 (FAS) Median Test BM32 5x

Statistical analysis description:

Based on the observed variance heterogeneity between the placebo and verum groups the non-parametric median test was used to compare the medians of placebo against any of the three verum groups for the analysis of the primary endpoint.

Comparison groups	Placebo v BM32 5x

Number of subjects included in analysis	62
Analysis specification	Pre-specified
Analysis type	other[9]
P-value	< 0.0001
Method	Median Test
Parameter estimate	Median difference (final values)
Point estimate	71.23
Confidence interval	
level	95 %
sides	2-sided
lower limit	20.71
upper limit	193.1
Variability estimate	Standard deviation
Dispersion value	438.29

Notes:

[9] - comparison to placebo

Primary: EP2 (PP) : Median change in IgG4 levels against allergens Phl p 1 and Phl p 5

End point title	EP2 (PP) : Median change in IgG4 levels against allergens Phl p 1 and Phl p 5

End point description:

Change in IgG4 levels (sum of Phl p 1- and Phl p 5-specific IgG1) between Visit 3 (V3; before treatment) and Visit 8 (V8; after treatment)

End point type	Primary

End point timeframe:

Change in IgG4 levels between Visit 3 (before 1st treatment) and Visit 8 (after last treatment)

End point values	BM32 3x	BM32 4x	BM32 5x	Placebo
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	29	29	25	32
Units: µg/mL				
median (confidence interval 95%)	7.61 (3.86 to 29.74)	11.06 (6.07 to 16.71)	48.27 (21.16 to 193.10)	0.00 (0.00 to 2.50)

Statistical analyses

Statistical analysis title	EP2 (PP) Median Test BM32 3x

Statistical analysis description:

Based on the observed variance heterogeneity between the placebo and verum groups the non-parametric median test was used to compare the medians of placebo against any of the three verum groups for the analysis of the primary endpoint.

Comparison groups	BM32 3x v Placebo

Number of subjects included in analysis	61
Analysis specification	Pre-specified
Analysis type	other[10]
P-value	< 0.0001
Method	Median Test
Parameter estimate	Median difference (final values)
Point estimate	7.61
Confidence interval	
level	95 %
sides	2-sided
lower limit	3.86
upper limit	29.74
Variability estimate	Standard deviation
Dispersion value	233.37

Notes:

[10] - comparison to placebo

Statistical analysis title	EP2 (PP) Median Test BM32 4x

Statistical analysis description:

Based on the observed variance heterogeneity between the placebo and verum groups the non-parametric median test was used to compare the medians of placebo against any of the three verum groups for the analysis of the primary endpoint.

Comparison groups	Placebo v BM32 4x
Number of subjects included in analysis	61
Analysis specification	Pre-specified
Analysis type	other[11]
P-value	< 0.0001
Method	Median Test
Parameter estimate	Median difference (final values)
Point estimate	11.06
Confidence interval	
level	95 %
sides	2-sided
lower limit	6.07
upper limit	16.71
Variability estimate	Standard deviation
Dispersion value	97.16

Notes:

[11] - comparison to placebo

Statistical analysis title	EP2 (PP) Median Test BM32 5x

Statistical analysis description:

Based on the observed variance heterogeneity between the placebo and verum groups the non-parametric median test was used to compare the medians of placebo against any of the three verum groups for the analysis of the primary endpoint.

Comparison groups	Placebo v BM32 5x

Number of subjects included in analysis	57
Analysis specification	Pre-specified
Analysis type	other[12]
P-value	< 0.0001
Method	Median Test
Parameter estimate	Median difference (final values)
Point estimate	48.27
Confidence interval	
level	95 %
sides	2-sided
lower limit	21.16
upper limit	193.1
Variability estimate	Standard deviation
Dispersion value	409.26

Notes:

[12] - comparison to placebo

Adverse events

Adverse events information

Timeframe for reporting adverse events:

Throughout the whole study from V1 (screeening) up to V12 (safety follow up visit)

Adverse event reporting additional description:

Safety and tolerability of the different BM32 dosing regimen and schedules of the different study arms were assessed. Separately, the occurrence of immunotherapy-specific adverse events (local and systemic) were evaluated.

Assessment type	Systematic

Dictionary used

Dictionary name	MedDRA
Dictionary version	19.0

Reporting groups

Reporting group title	BM32 3x
Reporting group description: -	
Reporting group title	BM32 4x
Reporting group description: -	
Reporting group title	BM32 5x
Reporting group description: -	
Reporting group title	Placebo
Reporting group description: -	

Serious adverse events	BM32 3x	BM32 4x	BM32 5x
Total subjects affected by serious adverse events			
subjects affected / exposed	1 / 33 (3.03%)	0 / 32 (0.00%)	0 / 31 (0.00%)
number of deaths (all causes)	0	0	0
number of deaths resulting from adverse events	0	0	0
Neoplasms benign, malignant and unspecified (incl cysts and polyps)			
Rectal cancer			
subjects affected / exposed	1 / 33 (3.03%)	0 / 32 (0.00%)	0 / 31 (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

Serious adverse events	Placebo		
Total subjects affected by serious adverse events			
subjects affected / exposed	0 / 34 (0.00%)		
number of deaths (all causes)	0		
number of deaths resulting from adverse events	0		
Neoplasms benign, malignant and unspecified (incl cysts and polyps)			

Rectal cancer			
subjects affected / exposed	0 / 34 (0.00%)		
occurrences causally related to treatment / all	0 / 0		
deaths causally related to treatment / all	0 / 0		

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

Non-serious adverse events	BM32 3x	BM32 4x	BM32 5x
Total subjects affected by non-serious adverse events			
subjects affected / exposed	25 / 33 (75.76%)	29 / 32 (90.63%)	24 / 31 (77.42%)
Nervous system disorders			
Headache			
subjects affected / exposed	2 / 33 (6.06%)	3 / 32 (9.38%)	0 / 31 (0.00%)
occurrences (all)	3	4	0
General disorders and administration site conditions			
Fatigue			
subjects affected / exposed	0 / 33 (0.00%)	2 / 32 (6.25%)	0 / 31 (0.00%)
occurrences (all)	0	3	0
Injection site erythema			
subjects affected / exposed	13 / 33 (39.39%)	12 / 32 (37.50%)	12 / 31 (38.71%)
occurrences (all)	29	25	27
Injection site pain			
subjects affected / exposed	6 / 33 (18.18%)	2 / 32 (6.25%)	3 / 31 (9.68%)
occurrences (all)	11	4	4
Injection site pruritus			
subjects affected / exposed	12 / 33 (36.36%)	18 / 32 (56.25%)	11 / 31 (35.48%)
occurrences (all)	23	36	33
Injection site swelling			
subjects affected / exposed	17 / 33 (51.52%)	20 / 32 (62.50%)	14 / 31 (45.16%)
occurrences (all)	37	49	44
Injection site warmth			
subjects affected / exposed	2 / 33 (6.06%)	2 / 32 (6.25%)	3 / 31 (9.68%)
occurrences (all)	3	2	5
Pyrexia			
subjects affected / exposed	2 / 33 (6.06%)	0 / 32 (0.00%)	1 / 31 (3.23%)
occurrences (all)	2	0	1

Injection site induration			
subjects affected / exposed	1 / 33 (3.03%)	3 / 32 (9.38%)	2 / 31 (6.45%)
occurrences (all)	4	8	3
Immune system disorders			
Seasonal allergy			
subjects affected / exposed	17 / 33 (51.52%)	23 / 32 (71.88%)	14 / 31 (45.16%)
occurrences (all)	19	29	18
Eye disorders			
Conjunctivitis allergic			
subjects affected / exposed	1 / 33 (3.03%)	3 / 32 (9.38%)	0 / 31 (0.00%)
occurrences (all)	1	3	0
Skin and subcutaneous tissue disorders			
Urticaria			
subjects affected / exposed	0 / 33 (0.00%)	2 / 32 (6.25%)	1 / 31 (3.23%)
occurrences (all)	0	2	1
Infections and infestations			
Influenza			
subjects affected / exposed	3 / 33 (9.09%)	2 / 32 (6.25%)	3 / 31 (9.68%)
occurrences (all)	3	2	3
Nasopharyngitis			
subjects affected / exposed	5 / 33 (15.15%)	6 / 32 (18.75%)	5 / 31 (16.13%)
occurrences (all)	5	8	6
Sinusitis			
subjects affected / exposed	1 / 33 (3.03%)	0 / 32 (0.00%)	2 / 31 (6.45%)
occurrences (all)	1	0	2
Tonsillitis			
subjects affected / exposed	1 / 33 (3.03%)	0 / 32 (0.00%)	2 / 31 (6.45%)
occurrences (all)	1	0	2
Urinary tract infection			
subjects affected / exposed	0 / 33 (0.00%)	0 / 32 (0.00%)	0 / 31 (0.00%)
occurrences (all)	0	0	0

Non-serious adverse events	Placebo		
Total subjects affected by non-serious adverse events			
subjects affected / exposed	32 / 34 (94.12%)		
Nervous system disorders			
Headache			

subjects affected / exposed	2 / 34 (5.88%)		
occurrences (all)	3		
General disorders and administration site conditions			
Fatigue			
subjects affected / exposed	0 / 34 (0.00%)		
occurrences (all)	0		
Injection site erythema			
subjects affected / exposed	6 / 34 (17.65%)		
occurrences (all)	15		
Injection site pain			
subjects affected / exposed	6 / 34 (17.65%)		
occurrences (all)	16		
Injection site pruritus			
subjects affected / exposed	1 / 34 (2.94%)		
occurrences (all)	1		
Injection site swelling			
subjects affected / exposed	6 / 34 (17.65%)		
occurrences (all)	11		
Injection site warmth			
subjects affected / exposed	0 / 34 (0.00%)		
occurrences (all)	0		
Pyrexia			
subjects affected / exposed	2 / 34 (5.88%)		
occurrences (all)	2		
Injection site induration			
subjects affected / exposed	2 / 34 (5.88%)		
occurrences (all)	4		
Immune system disorders			
Seasonal allergy			
subjects affected / exposed	20 / 34 (58.82%)		
occurrences (all)	25		
Eye disorders			
Conjunctivitis allergic			
subjects affected / exposed	1 / 34 (2.94%)		
occurrences (all)	2		
Skin and subcutaneous tissue disorders			

Urticaria			
subjects affected / exposed	0 / 34 (0.00%)		
occurrences (all)	0		
Infections and infestations			
Influenza			
subjects affected / exposed	1 / 34 (2.94%)		
occurrences (all)	1		
Nasopharyngitis			
subjects affected / exposed	5 / 34 (14.71%)		
occurrences (all)	5		
Sinusitis			
subjects affected / exposed	1 / 34 (2.94%)		
occurrences (all)	1		
Tonsillitis			
subjects affected / exposed	1 / 34 (2.94%)		
occurrences (all)	1		
Urinary tract infection			
subjects affected / exposed	2 / 34 (5.88%)		
occurrences (all)	2		

More information

Substantial protocol amendments (globally)

Were there any global substantial amendments to the protocol? No

Interruptions (globally)

Were there any global interruptions to the trial? No

Limitations and caveats

None reported