Clinical trial results:
A Randomized, Double-Blind, Placebo-Controlled Study in Cat-Allergic Patients with Allergic Rhinitis Who Live with a Cat to Assess the Efficacy and Safety of Anti-Fel d 1 Antibodies during Natural Cat Exposure in the Home

Summary

EudraCT number	2021-002089-42
Trial protocol	DE BE FR PL
Global end of trial date	24 April 2023

Results information

Result version number	v1 (current)
This version publication date	08 November 2023
First version publication date	08 November 2023

Trial information

Trial identification

Sponsor protocol code	R1908-1909-ALG-2102

Additional study identifiers

ISRCTN number	-
ClinicalTrials.gov id (NCT number)	NCT04981717
WHO universal trial number (UTN)	-

Notes:

Sponsors

Sponsor organisation name	Regeneron Pharmaceuticals, Inc.
Sponsor organisation address	777 Old Saw Mill River Road, Tarrytown, United States, 10591
Public contact	Clinical Trials Administrator, Regeneron Pharmaceuticals, Inc., 001 8447346643, clinicaltrials@regeneron.com
Scientific contact	Clinical Trials Administrator, Regeneron Pharmaceuticals, Inc., 001 8447346643, clinicaltrials@regeneron.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?	Yes

Notes:

Results analysis stage

Analysis stage	Final
Date of interim/final analysis	24 April 2023
Is this the analysis of the primary completion data?	No

Global end of trial reached?	Yes
Global end of trial date	24 April 2023
Was the trial ended prematurely?	Yes

Notes:

General information about the trial

Main objective of the trial:

To determine that REGN1908-1909 reduces the symptoms associated with cat allergy

Protection of trial subjects:

This study was conducted in accordance with the ethical principles that have their origin in the Declaration of Helsinki and that are consistent with the International Council for Harmonisation (ICH) guidelines for Good Clinical Practice (GCP) and applicable regulatory requirements.

Background therapy: -

Evidence for comparator: -

Actual start date of recruitment	30 July 2021
Long term follow-up planned	No
Independent data monitoring committee (IDMC) involvement?	Yes

Notes:

Population of trial subjects

Subjects enrolled per country

Country: Number of subjects enrolled	Belgium: 8
Country: Number of subjects enrolled	Canada: 83
Country: Number of subjects enrolled	France: 11
Country: Number of subjects enrolled	Germany: 57
Country: Number of subjects enrolled	Poland: 187
Country: Number of subjects enrolled	United States: 100
Worldwide total number of subjects	446
EEA total number of subjects	263

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)	14

Adults (18-64 years)	426
From 65 to 84 years	6
85 years and over	0

Subject disposition

Recruitment

Recruitment details: -

Pre-assignment

Screening details:

1,227 participants were screened, 453 enrolled, 7 participants not randomized, 446 participants were randomized

Period 1

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

Arms

Are arms mutually exclusive?	Yes
Arm title	Placebo

Arm description:

Randomized 1:1 ratio of matching placebo for REGN1908-1909 600 mg administered Q12W for a total of 5 administrations

Arm type	Placebo
Investigational medicinal product name	REGN1909 Placebo
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Powder for cutaneous solution
Routes of administration	Subcutaneous use

Dosage and administration details:

Q12W for a total of 5 doses

Investigational medicinal product name	REGN1908 Placebo
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Powder for cutaneous solution
Routes of administration	Subcutaneous use

Dosage and administration details:

Q12W for a total of 5 doses

Arm title	REGN1908-1909

Arm description:

Randomized 1:1 ratio of REGN1908-1909 600 mg administered Q12W for a total of 5 administrations

Arm type	Experimental
Investigational medicinal product name	REGN1909
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Powder for cutaneous solution
Routes of administration	Subcutaneous use

Dosage and administration details:

Q12W for a total of 5 doses

Investigational medicinal product name	REGN1908
Investigational medicinal product code	
Other name	

Pharmaceutical forms	Powder for cutaneous solution
Routes of administration	Subcutaneous use

Dosage and administration details:

Q12W for a total of 5 doses

Number of subjects in period 1	Placebo	REGN1908-1909
Started	222	224
Completed	8	4
Not completed	214	220
Physician decision	1	-
Consent withdrawn by subject	50	37
Adverse event, non-fatal	1	3
Pregnancy	1	-
Lost to follow-up	4	5
Sponsor Request	157	172
Protocol deviation	-	3

Baseline characteristics

Reporting groups	
Reporting group title	Placebo
Reporting group description:	
Randomized 1:1 ratio of matching placebo for REGN1908-1909 600 mg administered Q12W for a total of 5 administrations	
Reporting group title	REGN1908-1909
Reporting group description:	
Randomized 1:1 ratio of REGN1908-1909 600 mg administered Q12W for a total of 5 administrations	

Reporting group values	Placebo	REGN1908-1909	Total
Number of subjects	222	224	446
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)	8	6	14
Adults (18-64 years)	211	215	426
From 65-84 years	3	3	6
85 years and over	0	0	0
Age continuous			
Units: years			
arithmetic mean	37.0	37.4	
standard deviation	± 12.68	± 12.58	-
Gender categorical			
Units: Participants			
Female	136	147	283
Male	86	77	163
Ethnicity			
Units: Subjects			
NOT HISPANIC OR LATINO	216	217	433
HISPANIC OR LATINO	5	5	10
NOT REPORTED	1	2	3
Race			
Units: Subjects			
WHITE	210	206	416
BLACK OR AFRICAN AMERICAN	1	3	4
ASIAN	7	11	18
AMERICAN INDIAN OR ALASKA NATIVE	1	0	1
NOT REPORTED	2	1	3
OTHER	1	3	4

End points

End points reporting groups

Reporting group title	Placebo
Reporting group description:	
Randomized 1:1 ratio of matching placebo for REGN1908-1909 600 mg administered Q12W for a total of 5 administrations	
Reporting group title	REGN1908-1909
Reporting group description:	
Randomized 1:1 ratio of REGN1908-1909 600 mg administered Q12W for a total of 5 administrations	

Primary: Daily combined symptom and medication score (CSMS) averaged over last 12 weeks of the treatment period in patients who receive REGN1908-1909 versus placebo

End point title	Daily combined symptom and medication score (CSMS) averaged over last 12 weeks of the treatment period in patients who receive REGN1908-1909 versus placebo[1]
End point description:	
CSMS is calculated by adding the Daily Medication Score (DMS) and Total Symptom Score (TSS) together, with scores ranging between 0 (none) and 38 (severe).	
End point type	Primary
End point timeframe:	
Weeks 48 to 60	

Notes:

[1] - No statistical analyses have been specified for this primary end point. It is expected there is at least one statistical analysis for each primary end point.
Justification: No statistical analyses have been specified for this primary end point. It is expected there is at least one statistical analysis for each primary end point.

End point values	Placebo	REGN1908-1909		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	0[2]	0[3]		
Units: Score on a Scale				
number (not applicable)				

Notes:

[2] - Study terminated, period timeline not assessed

[3] - Study terminated, period timeline not assessed

Statistical analyses

No statistical analyses for this end point

Secondary: Daily total nasal symptom score (TNSS) averaged over the last 12 weeks of treatment period in patients who receive REGN1908-1909 versus placebo

End point title	Daily total nasal symptom score (TNSS) averaged over the last 12 weeks of treatment period in patients who receive REGN1908-1909 versus placebo
End point description:	
Total nasal symptom score (TNSS) is from 0 to 12 and is based on assessment of 4 nasal symptoms graded on a Likert scale ranging from 0 (none) to 3 (severe) for congestion, itching, and rhinorrhea, and from 0 (none) to 3 (5 or more sneezes) for sneezing.	
End point type	Secondary

End point timeframe:
Weeks 48 to 60

End point values	Placebo	REGN1908-1909		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	0[4]	0[5]		
Units: Score on a scale				
number (not applicable)				

Notes:

[4] - Study terminated, period timeline not assessed

[5] - Study terminated, period timeline not assessed

Statistical analyses

No statistical analyses for this end point

Secondary: Percent change from pre-treatment baseline in average CSMS over the last 12 weeks of the treatment period in patients who receive REGN1908-1909 versus placebo

End point title	Percent change from pre-treatment baseline in average CSMS over the last 12 weeks of the treatment period in patients who receive REGN1908-1909 versus placebo

End point description:

End point type	Secondary

End point timeframe:

Weeks 48 to 60

End point values	Placebo	REGN1908-1909		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	0[6]	0[7]		
Units: Percentage				
number (not applicable)				

Notes:

[6] - Study terminated, period timeline not assessed

[7] - Study terminated, period timeline not assessed

Statistical analyses

No statistical analyses for this end point

Secondary: Percent change from baseline to the end of treatment in cat skin prick test (SPT) mean wheal diameter in patients who receive REGN1908-1909 versus placebo

End point title	Percent change from baseline to the end of treatment in cat skin prick test (SPT) mean wheal diameter in patients who receive REGN1908-1909 versus placebo

End point description:

End point type	Secondary

End point timeframe:

Week 60

End point values	Placebo	REGN1908-1909		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	0[8]	0[9]		
Units: Percent				
number (not applicable)				

Notes:

[8] - Study terminated, period timeline not assessed

[9] - Study terminated, period timeline not assessed

Statistical analyses

No statistical analyses for this end point

Secondary: Percent change from pre-treatment baseline in average TSS over the last 12 weeks of the treatment period in patients who receive REGN1908-1909 versus placebo

End point title	Percent change from pre-treatment baseline in average TSS over the last 12 weeks of the treatment period in patients who receive REGN1908-1909 versus placebo

End point description:

End point type	Secondary

End point timeframe:

Weeks 48 to 60

End point values	Placebo	REGN1908-1909		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	0[10]	0[11]		
Units: Percent				
number (not applicable)				

Notes:

[10] - Study terminated, period timeline not assessed

[11] - Study terminated, period timeline not assessed

Statistical analyses

No statistical analyses for this end point

Secondary: Daily total symptom score (TSS) averaged over the last 12 weeks of the treatment period in patients who receive REGN1908-1909 versus placebo

End point title	Daily total symptom score (TSS) averaged over the last 12 weeks of the treatment period in patients who receive REGN1908-1909 versus placebo

End point description:

TSS is a combined score of TOSS and TNSS. TNSS and TOSS are scored as in part 1 each for a combined TSS of 0 (none) to 18 (severe)

End point type	Secondary

End point timeframe:

Weeks 48 to 60

End point values	Placebo	REGN1908-1909		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	0[12]	0[13]		
Units: Score on a scale				
number (not applicable)				

Notes:

[12] - Study terminated, period timeline not assessed

[13] - Study terminated, period timeline not assessed

Statistical analyses

No statistical analyses for this end point

Secondary: Percent change from pre-treatment baseline in average TNSS over the last 12 weeks of the treatment period in patients who receive REGN1908-1909 versus placebo

End point title	Percent change from pre-treatment baseline in average TNSS over the last 12 weeks of the treatment period in patients who receive REGN1908-1909 versus placebo

End point description:

End point type	Secondary

End point timeframe:

Weeks 48 to 60

End point values	Placebo	REGN1908-1909		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	0[14]	0[15]		
Units: Percentage				
number (not applicable)				

Notes:

[14] - Study terminated, period timeline not assessed

[15] - Study terminated, period timeline not assessed

Statistical analyses

No statistical analyses for this end point

Secondary: Daily CSMS averaged over the initial 12 weeks of the treatment period in patients who receive REGN1908-1909 versus placebo

End point title	Daily CSMS averaged over the initial 12 weeks of the treatment period in patients who receive REGN1908-1909 versus placebo

End point description:

The full analysis set (FAS) includes all randomized patients; it is based on the treatment allocated (as randomized). Efficacy endpoints will be analyzed using the FAS.

End point type	Secondary

End point timeframe:

Weeks 0 to 12

End point values	Placebo	REGN1908-1909		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	222	224		
Units: Average Score				
least squares mean (standard error)	15.290 (± 0.9173)	16.184 (± 0.9370)		

Statistical analyses

No statistical analyses for this end point

Secondary: Percent change from pre-treatment baseline in average CSMS over the initial 12 weeks of the treatment period in patients who receive REGN1908-1909 versus placebo

End point title	Percent change from pre-treatment baseline in average CSMS over the initial 12 weeks of the treatment period in patients who receive REGN1908-1909 versus placebo

End point description:

The full analysis set (FAS) includes all randomized patients; it is based on the treatment allocated (as randomized). Efficacy endpoints will be analyzed using the FAS.

End point type	Secondary

End point timeframe:

Weeks 0 to 12

End point values	Placebo	REGN1908-1909		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	222	224		
Units: Percent				
number (standard deviation)	-33.16	-29.25		

Statistical analyses

No statistical analyses for this end point

Secondary: Percent change from pre-treatment baseline in average TSS over the initial 12 weeks of the treatment period in patients who receive REGN1908-1909 versus placebo

End point title	Percent change from pre-treatment baseline in average TSS over the initial 12 weeks of the treatment period in patients who receive REGN1908-1909 versus placebo

End point description:

The full analysis set (FAS) includes all randomized patients; it is based on the treatment allocated (as randomized). Efficacy endpoints will be analyzed using the FAS.

End point type	Secondary

End point timeframe:

Weeks 0 to 12

End point values	Placebo	REGN1908-1909		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	222	224		
Units: Percent				
arithmetic mean (standard deviation)	-31.16 (± 28.390)	-27.25 (± 30.185)		

Statistical analyses

No statistical analyses for this end point

Secondary: Daily TNSS averaged over the initial 12 weeks of the treatment period in patients who receive REGN1908-1909 versus placebo

End point title	Daily TNSS averaged over the initial 12 weeks of the treatment period in patients who receive REGN1908-1909 versus placebo

End point description:

The full analysis set (FAS) includes all randomized patients; it is based on the treatment allocated (as randomized). Efficacy endpoints will be analyzed using the FAS

End point type	Secondary

End point timeframe:

Weeks 0 to 12

End point values	Placebo	REGN1908-1909		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	222	224		
Units: Average Score				
least squares mean (standard error)	5.88 (± 0.314)	6.18 (± 0.320)		

Statistical analyses

No statistical analyses for this end point

Secondary: Percent change from pre-treatment baseline in average TNSS over the initial 12 weeks of the treatment period in patients who receive REGN1908-1909 versus placebo

End point title	Percent change from pre-treatment baseline in average TNSS over the initial 12 weeks of the treatment period in patients who receive REGN1908-1909 versus placebo

End point description:

The full analysis set (FAS) includes all randomized patients; it is based on the treatment allocated (as randomized). Efficacy endpoints will be analyzed using the FAS.

End point type	Secondary

End point timeframe:

Weeks 0 to 12

End point values	Placebo	REGN1908-1909		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	222	224		
Units: Percent				
arithmetic mean (standard deviation)	-30.33 (± 27.976)	-26.77 (± 29.471)		

Statistical analyses

No statistical analyses for this end point

Secondary: Daily TSS score averaged over the initial 12 weeks of the treatment period in patients who receive REGN1908-1909 versus placebo

End point title	Daily TSS score averaged over the initial 12 weeks of the treatment period in patients who receive REGN1908-1909 versus placebo

End point description:

The full analysis set (FAS) includes all randomized patients; it is based on the treatment allocated (as randomized). Efficacy endpoints will be analyzed using the FAS.

End point type	Secondary

End point timeframe:

Weeks 0 to 12

End point values	Placebo	REGN1908-1909		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	222	224		
Units: Average Score				
arithmetic mean (standard deviation)	7.80 (± 3.507)	8.11 (± 3.743)		

Statistical analyses

No statistical analyses for this end point

Secondary: Percent change from pre-treatment baseline in average TOSS over the last 12 weeks of the treatment period in patients who receive REGN1908-1909 versus placebo

End point title	Percent change from pre-treatment baseline in average TOSS over the last 12 weeks of the treatment period in patients who receive REGN1908-1909 versus placebo

End point description:

End point type	Secondary

End point timeframe:

Weeks 48 to 60

End point values	Placebo	REGN1908-1909		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	0[16]	0[17]		
Units: Percent				
number (not applicable)				

Notes:

[16] - Study terminated, period timeline not assessed

[17] - Study terminated, period timeline not assessed

Statistical analyses

No statistical analyses for this end point

Secondary: Daily TOSS averaged over the last 12 weeks of the treatment period in patients who receive REGN1908-1909 versus placebo

End point title	Daily TOSS averaged over the last 12 weeks of the treatment period in patients who receive REGN1908-1909 versus placebo

End point description:

End point type	Secondary

End point timeframe:

Weeks 48 to 60

End point values	Placebo	REGN1908-1909		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	0[18]	0[19]		
Units: Score on a scale				
number (not applicable)				

Notes:

[18] - Study terminated, period timeline not assessed

[19] - Study terminated, period timeline not assessed

Statistical analyses

No statistical analyses for this end point

Secondary: Percent change from pre-treatment baseline in average TOSS, over the initial 12 weeks of the treatment period in patients who receive REGN1908-1909 versus placebo

End point title	Percent change from pre-treatment baseline in average TOSS, over the initial 12 weeks of the treatment period in patients who receive REGN1908-1909 versus placebo

End point description:

Total ocular symptom score is 0 to 6 and is based on itching/redness/gritty feeling and tearing/watering; each of the 2 symptoms is graded 0 (absent), 1 (mild), 2 (moderate), and 3 (severe)

End point type	Secondary

End point timeframe:

Weeks 0 to 12

End point values	Placebo	REGN1908-1909		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	222	224		
Units: Percent				
arithmetic mean (standard deviation)	-32.92 (± 35.708)	-27.90 (± 38.216)		

Statistical analyses

No statistical analyses for this end point

Secondary: Percent change in forced expiratory volume (FEV)1 in patients with asthma who receive REGN1908-1909 versus placebo

End point title	Percent change in forced expiratory volume (FEV)1 in patients with asthma who receive REGN1908-1909 versus placebo

End point description:

The full analysis set (FAS) includes all randomized patients; it is based on the treatment allocated (as randomized). Efficacy endpoints will be analyzed using the FAS.

End point type	Secondary

End point timeframe:

Baseline to week 12

End point values	Placebo	REGN1908-1909		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	112	117		
Units: Percent				
arithmetic mean (standard deviation)	-0.05 (± 5.334)	1.35 (± 7.314)		

Statistical analyses

No statistical analyses for this end point

Secondary: Percent change in FEV1 in patients with asthma who receive REGN1908-1909 versus placebo

End point title	Percent change in FEV1 in patients with asthma who receive REGN1908-1909 versus placebo

End point description:

End point type	Secondary

End point timeframe:

Baseline to week 60

End point values	Placebo	REGN1908-1909		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	0[20]	0[21]		
Units: Percent				
number (not applicable)				

Notes:

[20] - Study terminated, period timeline not assessed

[21] - Study terminated, period timeline not assessed

Statistical analyses

No statistical analyses for this end point

Secondary: Percent change in cat SPT mean wheal diameter in patients who receive REGN1908-1909 versus placebo (up to week 12)

End point title	Percent change in cat SPT mean wheal diameter in patients

	who receive REGN1908-1909 versus placebo (up to week 12)

End point description:

The full analysis set (FAS) includes all randomized patients; it is based on the treatment allocated (as randomized). Efficacy endpoints will be analyzed using the FAS.

End point type	Secondary

End point timeframe:

Baseline to week 12

End point values	Placebo	REGN1908-1909		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	222	224		
Units: Percent				
arithmetic mean (standard deviation)	-26.76 (± 33.787)	-35.27 (± 31.438)		

Statistical analyses

No statistical analyses for this end point

Secondary: Change from Baseline to Week 60 in Rhinoconjunctivitis Quality of Life Questionnaire for Ages 12+ (RQLQ(S)+12) in participants who received REGN1908-1909 versus placebo

End point title	Change from Baseline to Week 60 in Rhinoconjunctivitis Quality of Life Questionnaire for Ages 12+ (RQLQ(S)+12) in participants who received REGN1908-1909 versus placebo

End point description:

The RQLQ had 25 questions in 6 domains (nose symptoms, eye symptoms, practical problems, activity limitation, non-hay fever symptoms and emotional function). Participants recalled how they have been during the previous week and responded to each question on a 7-point scale. The overall RQLQ score was the mean of all 25 responses and the individual domain scores were the means of the items in those domains.

End point type	Secondary

End point timeframe:

Baseline to week 60

End point values	Placebo	REGN1908-1909		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	0[22]	0[23]		
Units: Score on a scale				
number (not applicable)				

Notes:

[22] - Study terminated, period timeline not assessed

[23] - Study terminated, period timeline not assessed

Statistical analyses

No statistical analyses for this end point

Secondary: Change in FEV1 in participants with asthma who receive REGN1908-1909 versus placebo (up to week 60)

End point title	Change in FEV1 in participants with asthma who receive REGN1908-1909 versus placebo (up to week 60)

End point description:

End point type	Secondary

End point timeframe:

Baseline to week 60

End point values	Placebo	REGN1908-1909		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	0[24]	0[25]		
Units: Participants				
number (not applicable)				

Notes:

[24] - Study terminated, period timeline not assessed

[25] - Study terminated, period timeline not assessed

Statistical analyses

No statistical analyses for this end point

Secondary: Daily medication score (DMS) averaged over the initial 12 weeks of the treatment period in participants who receive REGN1908-1909 versus placebo

End point title	Daily medication score (DMS) averaged over the initial 12 weeks of the treatment period in participants who receive REGN1908-1909 versus placebo

End point description:

The Daily Medication Score (DMS) was calculated by adding points for each pre-specified medication. The scale is 0 (minimum) to 20 (maximum)

End point type	Secondary

End point timeframe:

Weeks 0 to 12

End point values	Placebo	REGN1908-1909		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	222	224		
Units: Score on a scale				
arithmetic mean (standard deviation)	6.467 (± 4.5117)	6.582 (± 4.9101)		

Statistical analyses

No statistical analyses for this end point

Secondary: Change in FEV1 in participants with asthma who receive REGN1908-1909 versus placebo (up to week 12)

End point title	Change in FEV1 in participants with asthma who receive REGN1908-1909 versus placebo (up to week 12)

End point description:

The full analysis set (FAS) includes all randomized patients; it is based on the treatment allocated (as randomized). Efficacy endpoints will be analyzed using the FAS.

End point type	Secondary

End point timeframe:

Baseline to week 12

End point values	Placebo	REGN1908-1909		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	222	224		
Units: Participants				
arithmetic mean (standard deviation)	-0.0086 (± 0.17005)	0.0321 (± 0.21546)		

Statistical analyses

No statistical analyses for this end point

Secondary: Percent change in cat SPT mean wheal diameter in patients who receive REGN1908-1909 versus placebo

End point title	Percent change in cat SPT mean wheal diameter in patients who receive REGN1908-1909 versus placebo

End point description:

The full analysis set (FAS) includes all randomized participants; it is based on the treatment allocated (as randomized). Efficacy endpoints will be analyzed using the FAS.

End point type	Secondary

End point timeframe:

Baseline to week 72

End point values	Placebo	REGN1908-1909		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	0[26]	0[27]		
Units: Percent				
number (not applicable)				

Notes:

[26] - Study terminated, period timeline not assessed

[27] - Study terminated, period timeline not assessed

Statistical analyses

No statistical analyses for this end point

Secondary: Percent change from pre-treatment baseline in average DMS averaged over the last 12 weeks of the treatment period in participants who receive REGN1908-1909 versus placebo

End point title	Percent change from pre-treatment baseline in average DMS averaged over the last 12 weeks of the treatment period in participants who receive REGN1908-1909 versus placebo

End point description:

End point type	Secondary

End point timeframe:

Weeks 48 to 60

End point values	Placebo	REGN1908-1909		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	0[28]	0[29]		
Units: Percent				
number (not applicable)				

Notes:

[28] - Study terminated, period timeline not assessed

[29] - Study terminated, period timeline not assessed

Statistical analyses

No statistical analyses for this end point

Secondary: DMS averaged over the last 12 weeks of the treatment period in participants who receive REGN1908-1909 versus placebo

End point title	DMS averaged over the last 12 weeks of the treatment period in participants who receive REGN1908-1909 versus placebo

End point description:

End point type	Secondary

End point timeframe:

Weeks 48 to 60

End point values	Placebo	REGN1908-1909		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	0[30]	0[31]		
Units: Score on a scale				
number (not applicable)				

Notes:

[30] - Study terminated, period timeline not assessed

[31] - Study terminated, period timeline not assessed

Statistical analyses

No statistical analyses for this end point

Secondary: Asthma daily symptom (ADS) score, averaged over the initial 12 weeks of the treatment period using Asthma Daytime Symptom Diary (ADSD) and the Asthma Nighttime Symptom Diary (ANSD) in participants with asthma who receive REGN1908-1909 versus placebo

End point title	Asthma daily symptom (ADS) score, averaged over the initial 12 weeks of the treatment period using Asthma Daytime Symptom Diary (ADSD) and the Asthma Nighttime Symptom Diary (ANSD) in participants with asthma who receive REGN1908-1909 versus placebo

End point description:

The total daily asthma symptom score is a participant-reported outcome concerning the occurrence of asthma symptoms and their effect on a patient's daily activities and sleep. It is composed of two parts: daytime (five items) and nighttime (four items), both scored ordinally. Higher scores indicate more severe symptoms.

End point type	Secondary

End point timeframe:

Weeks 0 to 12

End point values	Placebo	REGN1908-1909		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	112	117		
Units: Score on a scale				
arithmetic mean (standard deviation)	2.52 (± 2.141)	2.17 (± 2.005)		

Statistical analyses

No statistical analyses for this end point

Secondary: Change from baseline to week 60 in Asthma Control Questionnaire 5 Question Version (ACQ-5) in participant with asthma who receive REGN1908-1909 versus placebo

End point title	Change from baseline to week 60 in Asthma Control Questionnaire 5 Question Version (ACQ-5) in participant with asthma who receive REGN1908-1909 versus placebo

End point description:

The ACQ-5 had 5 questions, reflecting the top-scoring five asthma symptoms: woken at night by

symptoms, wake in the mornings with symptoms, limitation of daily activities, shortness of breath and wheeze. Participants were asked to recall how their asthma had been during the previous week and to respond to each of the five symptom questions on a 7-point scale ranged from 0 (no impairment) to 6 (maximum impairment). ACQ-5 total mean score was mean of the scores of all 5 questions and, therefore, ranged from 0 (totally controlled) to 6 (severely uncontrolled), higher scores indicated lower asthma control.

End point type	Secondary

End point timeframe:

Baseline to week 60

End point values	Placebo	REGN1908-1909		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	0[32]	0[33]		
Units: Score				
number (not applicable)				

Notes:

[32] - Study terminated, period timeline not assessed

[33] - Study terminated, period timeline not assessed

Statistical analyses

No statistical analyses for this end point

Secondary: ADS score averaged over the last 12 weeks of the treatment period using ADSD and the ANSD in participants with asthma who receive REGN1908-1909 versus placebo (weeks 48 to 60)

End point title	ADS score averaged over the last 12 weeks of the treatment period using ADSD and the ANSD in participants with asthma who receive REGN1908-1909 versus placebo (weeks 48 to 60)

End point description:

End point type	Secondary

End point timeframe:

Weeks 48 to 60

End point values	Placebo	REGN1908-1909		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	0[34]	0[35]		
Units: Score on a scale				
number (not applicable)				

Notes:

[34] - Study terminated, period timeline not assessed

[35] - Study terminated, period timeline not assessed

Statistical analyses

No statistical analyses for this end point

Secondary: Daily TOSS averaged over the initial 12 weeks of the treatment period in participants who receive REGN1908-1909 versus placebo

End point title	Daily TOSS averaged over the initial 12 weeks of the treatment period in participants who receive REGN1908-1909 versus placebo

End point description:

The full analysis set (FAS) includes all randomized patrticipants; it is based on the treatment allocated (as randomized). Efficacy endpoints will be analyzed using the FAS.

End point type	Secondary

End point timeframe:

Weeks 0 to 12

End point values	Placebo	REGN1908-1909		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	222	224		
Units: Score on a scale				
arithmetic mean (standard deviation)	2.33 (± 1.346)	2.42 (± 1.414)		

Statistical analyses

No statistical analyses for this end point

Secondary: Daily number of nighttime awakenings averaged over the initial 12 weeks of the treatment period in patients with asthma who receive REGN1908-1909 versus placebo

End point title	Daily number of nighttime awakenings averaged over the initial 12 weeks of the treatment period in patients with asthma who receive REGN1908-1909 versus placebo

End point description:

The full analysis set (FAS) includes all randomized patients; it is based on the treatment allocated (as randomized). Efficacy endpoints will be analyzed using the FAS.

End point type	Secondary

End point timeframe:

Weeks 0 to 12

End point values	Placebo	REGN1908-1909		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	112	117		
Units: Number				
arithmetic mean (standard deviation)	0.72 (± 1.166)	0.54 (± 0.846)		

Statistical analyses

No statistical analyses for this end point

Secondary: Incidence of serious TEAEs throughout the study

End point title	Incidence of serious TEAEs throughout the study

End point description:

The safety analysis set (SAF) includes all randomized participants who received any study drug; it is based on the treatment received (as treated).

End point type	Secondary

End point timeframe:

Weeks 0 to 72

End point values	Placebo	REGN1908-1909		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	0[36]	0[37]		
Units: Number				
number (not applicable)				

Notes:

[36] - Study terminated, period timeline not assessed

[37] - Study terminated, period timeline not assessed

Statistical analyses

No statistical analyses for this end point

Secondary: Number of treatment-emergent adverse events (TEAEs) throughout the study

End point title	Number of treatment-emergent adverse events (TEAEs) throughout the study

End point description:

The full analysis set (FAS) includes all randomized participants; it is based on the treatment allocated (as randomized). Efficacy endpoints will be analyzed using the FAS.

End point type	Secondary

End point timeframe:

Weeks 0 to 72

End point values	Placebo	REGN1908-1909		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	0[38]	0[39]		
Units: Participants				
number (not applicable)				

Notes:

[38] - Study terminated, period timeline not assessed

[39] - Study terminated, period timeline not assessed

Statistical analyses

No statistical analyses for this end point

Secondary: Daily number of nighttime awakenings averaged over the last 12 weeks of the treatment period in patients with asthma who receive REGN1908-1909 versus placebo (weeks 48 to 60)

End point title	Daily number of nighttime awakenings averaged over the last 12 weeks of the treatment period in patients with asthma who receive REGN1908-1909 versus placebo (weeks 48 to 60)

End point description:

End point type	Secondary

End point timeframe:

Weeks 48 to 60

End point values	Placebo	REGN1908-1909		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	0[40]	0[41]		
Units: Number				
number (not applicable)				

Notes:

[40] - Study terminated, period timeline not assessed

[41] - Study terminated, period timeline not assessed

Statistical analyses

No statistical analyses for this end point

Secondary: Incidence of adverse event of special interests (AESIs) throughout the study

End point title	Incidence of adverse event of special interests (AESIs) throughout the study

End point description:

The safety analysis set (SAF) includes all randomized patients who received any study drug; it is based on the treatment received (as treated).

End point type	Secondary

End point timeframe:

Weeks 0 to 72

End point values	Placebo	REGN1908-1909		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	0[42]	0[43]		
Units: Participants				
number (not applicable)				

Notes:

[42] - Study terminated, period timeline not assessed

[43] - Study terminated, period timeline not assessed

Statistical analyses

No statistical analyses for this end point

Secondary: Total REGN1908 concentration in serum over the study duration

End point title	Total REGN1908 concentration in serum over the study duration[44]

End point description:

Each PK analysis includes all treated participants who received any amount of study drug (active, [SAF]) and had at least 1 non-missing result of each respective analyte following the first dose of study drug. The PKAS is based on the actual treatment received (as treated) rather than as randomized. Placebo participants were not analyzed.

End point type	Secondary

End point timeframe:

Weeks 0 to 72

Notes:

[44] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period.
Justification: No statistical analyses have been specified for this primary end point. It is expected there is at least one statistical analysis for each primary end point.

End point values	REGN1908-1909			
Subject group type	Reporting group			
Number of subjects analysed	224			
Units: mg/L				
arithmetic mean (standard deviation)				
Baseline [12 years old < 18 years old] (n = 6)	0.0753 (± 0.123)			
Week 12 [12 years old < 18 years old] (n = 5)	7.19 (± 2.54)			
Week 24 [12 years old < 18 years old] (n = 4)	10.5 (± 2.04)			
Week 36 [12 years old < 18 years old] (n = 4)	9.56 (± 4.98)			
Baseline (>= 18 years old) n = 205	0.0179 (± 0.116)			
Week 12 (>= 18 years old) n = 193	5.26 (± 2.60)			
Week 24 (>= 18 years old) n = 169	5.99 (± 3.58)			
Week 36 (>= 18 years old) n = 126	4.47 (± 3.63)			
Week 48 (>= 18 years old) n = 67	2.14 (± 2.76)			
Week 60 (>= 18 years old) n = 11	0.526 (± 0.377)			

Statistical analyses

No statistical analyses for this end point

Secondary: Total REGN1909 concentration in serum over the study duration

End point title	Total REGN1909 concentration in serum over the study duration[45]

End point description:

Each PK analysis includes all treated participants who received any amount of study drug (active, [SAF]) and had at least 1 non-missing result of each respective analyte following the first dose of study drug. The PKAS is based on the actual treatment received (as treated) rather than as randomized. Placebo participants were not analyzed.

End point type	Secondary

End point timeframe:

Weeks 0 to 72

Notes:

[45] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period.
Justification: No statistical analyses have been specified for this primary end point. It is expected there is at least one statistical analysis for each primary end point.

End point values	REGN1908-1909			
Subject group type	Reporting group			
Number of subjects analysed	224			
Units: mg/L				
arithmetic mean (standard deviation)				
Baseline [12 years old < 18 years old] (n = 6)	0 (± 0)			
Week 12 [12 years old < 18 years old] (n = 5)	3.49 (± 1.99)			
Week 24 [12 years old < 18 years old] (n = 4)	4.59 (± 0.957)			
Week 36 [12 years old < 18 years old] (n = 4)	4.02 (± 2.39)			
Baseline [>= 18 years old] (n = 205)	0.0160 (± 0.118)			
Week 12 [>= 18 years old] (n = 193)	2.32 (± 1.50)			
Week 24 [>= 18 years old] (n = 169)	2.46 (± 1.79)			
Week 36 [>= 18 years old] (n = 126)	1.91 (± 2.03)			
Week 48 [>= 18 years old] (n = 67)	0.903 (± 1.47)			
Week 60 [>= 18 years old] (n = 11)	0.161 (± 0.175)			

Statistical analyses

No statistical analyses for this end point

Secondary: Incidence of treatment-emergent ADAs to REGN1909 throughout the study

End point title	Incidence of treatment-emergent ADAs to REGN1909 throughout the study

End point description:

The AAS is defined for each study drug separately and includes all treated participants who received any amount of study drug (active or placebo, [SAF]) and had at least 1 non-missing ADA result following the

first dose of study drug or placebo. The AAS is based on the actual treatment received (as treated) rather than as randomized.

End point type	Secondary

End point timeframe:

Weeks 0 to 72

End point values	Placebo	REGN1908-1909		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	213	210		
Units: Participants				
Treatment-Emergent Response	5	5		

Statistical analyses

No statistical analyses for this end point

Secondary: Incidence of treatment-emergent anti-drug antibodies (ADAs) to REGN1908 throughout the study

End point title	Incidence of treatment-emergent anti-drug antibodies (ADAs) to REGN1908 throughout the study

End point description:

The AAS is defined for each study drug separately and includes all treated participants who received any amount of study drug (active or placebo, [SAF]) and had at least 1 non-missing ADA result following the first dose of study drug or placebo. The AAS is based on the actual treatment received (as treated) rather than as randomized.

End point type	Secondary

End point timeframe:

Weeks 0 to 72

End point values	Placebo	REGN1908-1909		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	213	210		
Units: Participants				
Treatment-Emergent Response	4	6		

Statistical analyses

No statistical analyses for this end point

Adverse events

Adverse events information	
Timeframe for reporting adverse events:	
From first dose to study termination (~60 weeks)	
Assessment type	Systematic

Dictionary used	
Dictionary name	MedDRA
Dictionary version	25.1

Reporting groups	
Reporting group title	R1908-1909 600 mg
Reporting group description: -	
Reporting group title	Placebo
Reporting group description: -	

Serious adverse events	R1908-1909 600 mg	Placebo	
Total subjects affected by serious adverse events			
subjects affected / exposed	2 / 218 (0.92%)	2 / 222 (0.90%)	
number of deaths (all causes)	0	0	
number of deaths resulting from adverse events			
Injury, poisoning and procedural complications			
Gastrointestinal procedural complication			
subjects affected / exposed	0 / 218 (0.00%)	1 / 222 (0.45%)	
occurrences causally related to treatment / all	0 / 0	0 / 2	
deaths causally related to treatment / all	0 / 0	0 / 0	
Ear and labyrinth disorders			
Meniere's disease			
subjects affected / exposed	0 / 218 (0.00%)	1 / 222 (0.45%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Respiratory, thoracic and mediastinal disorders			
Asthma			
subjects affected / exposed	1 / 218 (0.46%)	0 / 222 (0.00%)	
occurrences causally related to treatment / all	0 / 2	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Infections and infestations			

COVID-19			
subjects affected / exposed	1 / 218 (0.46%)	0 / 222 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	

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

Non-serious adverse events	R1908-1909 600 mg	Placebo	
Total subjects affected by non-serious adverse events			
subjects affected / exposed	54 / 218 (24.77%)	58 / 222 (26.13%)	
Infections and infestations			
COVID-19			
subjects affected / exposed	22 / 218 (10.09%)	28 / 222 (12.61%)	
occurrences (all)	22	29	
Upper respiratory tract infection			
subjects affected / exposed	14 / 218 (6.42%)	9 / 222 (4.05%)	
occurrences (all)	16	11	
Nasopharyngitis			
subjects affected / exposed	21 / 218 (9.63%)	25 / 222 (11.26%)	
occurrences (all)	28	30	

More information

Substantial protocol amendments (globally)

Were there any global substantial amendments to the protocol? Yes

Date	Amendment
30 April 2021	To correct a typo and provide a clarification within the inclusion criteria
19 May 2021	To add safety assessments and change the timing of the primary endpoint assessment

Notes:

Interruptions (globally)

Were there any global interruptions to the trial? Yes

Date	Interruption	Restart date
30 September 2022	Study Terminated	-

Notes:

Limitations and caveats

None reported