Clinical trial results:
A Phase 3 Extension Study of Ataluren (PTC124®) in Subjects With Nonsense-Mutation-Mediated Cystic Fibrosis

Summary

EudraCT number	2010-019692-30
Trial protocol	BE FR NL SE IT DE ES GB
Global end of trial date	02 December 2013

Results information

Result version number	v1 (current)
This version publication date	03 October 2020
First version publication date	03 October 2020

Trial information

Trial identification

Sponsor protocol code	PTC124-GD-009e-CF

Additional study identifiers

ISRCTN number	-
ClinicalTrials.gov id (NCT number)	NCT01140451
WHO universal trial number (UTN)	-

Notes:

Sponsors

Sponsor organisation name	PTC Therapeutics, Inc.
Sponsor organisation address	100 Corporate Court, South Plainfield, United States, NJ 07080
Public contact	Medical Information, PTC Therapeutics, Inc., +011 44 1-866-562-4620, medinfo@ptcbio.com
Scientific contact	Medical Information, PTC Therapeutics International Limited, 353 19068700, medinfo@ptcbio.com

Notes:

Paediatric regulatory details

Is trial part of an agreed paediatric investigation plan (PIP)	Yes
EMA paediatric investigation plan number(s)	EMEA-000115-PIP02-09
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	20 December 2013
Is this the analysis of the primary completion data?	Yes
Primary completion date	02 December 2013
Global end of trial reached?	Yes
Global end of trial date	02 December 2013
Was the trial ended prematurely?	No

Notes:

General information about the trial

Main objective of the trial:

To evaluate the long-term safety of ataluren in participants with nonsense-mutation-mediated cystic fibrosis (nmCF), as determined by adverse events and laboratory abnormalities.

Protection of trial subjects:

This study was conducted in accordance with International Conference on Harmonisation (ICH) Good Clinical Practice, and the principles of the Declaration of Helsinki, in addition to following the laws and regulations of the country or countries in which a study is conducted.

Background therapy: -

Evidence for comparator: -

Actual start date of recruitment	12 August 2010
Long term follow-up planned	Yes
Long term follow-up rationale	Safety
Long term follow-up duration	5 Years
Independent data monitoring committee (IDMC) involvement?	Yes

Notes:

Population of trial subjects

Subjects enrolled per country

Country: Number of subjects enrolled	United States: 65
Country: Number of subjects enrolled	France: 34
Country: Number of subjects enrolled	Israel: 26
Country: Number of subjects enrolled	Belgium: 23
Country: Number of subjects enrolled	Italy: 19
Country: Number of subjects enrolled	Germany: 6
Country: Number of subjects enrolled	Netherlands: 8
Country: Number of subjects enrolled	Sweden: 4
Country: Number of subjects enrolled	Spain: 3
Country: Number of subjects enrolled	United Kingdom: 2
Country: Number of subjects enrolled	Canada: 1
Worldwide total number of subjects	191
EEA total number of subjects	99

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)	13
Adolescents (12-17 years)	41
Adults (18-64 years)	137
From 65 to 84 years	0
85 years and over	0

Subject disposition

Recruitment

Recruitment details:

This was a multicenter, open-label extension study of the safety and efficacy of ataluren in male and female participants with nmCF aged ≥6 years who successfully completed Study PTC124-GD-009-CF (NCT00803205 [Study 009]).

Pre-assignment

Screening details:

Participants began the open-label extension study immediately after completing end-of-study visit (Week 48) in Study 009 to avoid interruption in treatment. Most assessments performed at Study 009's final visit were used as Baseline assessments in Study PTC124-GD-009e-CF (009e). Investigators and participants remained blinded to Study 009 dosing.

Period 1

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

Arms

Are arms mutually exclusive?	Yes
Arm title	Ataluren/Ataluren

Arm description:

Participants who received double-blind ataluren during Study 009 continued to receive open-label ataluren taken 3 times per day (TID): 10 milligram (mg)/kilogram (kg) of body weight with breakfast, 10 mg/kg with lunch, and 20 mg/kg with dinner (total dose 40 mg/kg/day), for up to 96 weeks. Participants were followed for 4 weeks after treatment.

Arm type	Open-Label
Investigational medicinal product name	Ataluren
Investigational medicinal product code	
Other name	PTC124, Translarna
Pharmaceutical forms	Granules for oral solution in sachet
Routes of administration	Oral use

Dosage and administration details:

Ataluren was provided as a vanilla-flavored powder and was mixed with water. Participants received 10 mg/kg of body weight with breakfast, 10 mg/kg with lunch, and 20 mg/kg with dinner (total dose 40 mg/kg/day).

Arm title	Placebo/Ataluren

Arm description:

Participants who received double-blind placebo during Study 009 received open-label ataluren TID: 10 mg/kg of body weight with breakfast, 10 mg/kg with lunch, and 20 mg/kg with dinner (total dose 40 mg/kg/day), for up to 96 weeks. Participants were followed for 4 weeks after treatment.

Arm type	Open-Label
Investigational medicinal product name	Ataluren
Investigational medicinal product code	
Other name	PTC124, Translarna
Pharmaceutical forms	Granules for oral solution in sachet
Routes of administration	Oral use

Dosage and administration details:

Ataluren was provided as a vanilla-flavored powder and was mixed with water. Participants received 10 mg/kg of body weight with breakfast, 10 mg/kg with lunch, and 20 mg/kg with dinner (total dose 40 mg/kg/day).

Number of subjects in period 1	Ataluren/Ataluren	Placebo/Ataluren
Started	95	96
Completed 24 Weeks	89	86
Completed 48 Weeks	78	70
Completed 72 Weeks	63	62
Completed 96 Weeks	57	54
As-Treated Population*	95	96
96-Week Completer Population	78	70
144-Week Completer Population	57	54
Completed	57	54
Not completed	38	42
Physician decision	5	3
Consent withdrawn by subject	26	33
Adverse Event	2	6
Lost to follow-up	2	-
Participants Planning Pregnancy	3	-

Baseline characteristics

Reporting groups	
Reporting group title	Ataluren/Ataluren
Reporting group description:	
Participants who received double-blind ataluren during Study 009 continued to receive open-label ataluren taken 3 times per day (TID): 10 milligram (mg)/kilogram (kg) of body weight with breakfast, 10 mg/kg with lunch, and 20 mg/kg with dinner (total dose 40 mg/kg/day), for up to 96 weeks. Participants were followed for 4 weeks after treatment.	
Reporting group title	Placebo/Ataluren
Reporting group description:	
Participants who received double-blind placebo during Study 009 received open-label ataluren TID: 10 mg/kg of body weight with breakfast, 10 mg/kg with lunch, and 20 mg/kg with dinner (total dose 40 mg/kg/day), for up to 96 weeks. Participants were followed for 4 weeks after treatment.	

Reporting group values	Ataluren/Ataluren	Placebo/Ataluren	Total
Number of subjects	95	96	191
Age categorical Units: Subjects			
Participants aged 7 (min) to 54 (max) years old	95	96	191
Age Continuous Units: years			
arithmetic mean	22.9	24.9	
standard deviation	± 10.04	± 9.29	-
Sex: Female, Male Units: Subjects			
Female	48	49	97
Male	47	47	94

End points

End points reporting groups

Reporting group title	Ataluren/Ataluren

Reporting group description:

Participants who received double-blind ataluren during Study 009 continued to receive open-label ataluren taken 3 times per day (TID): 10 milligram (mg)/kilogram (kg) of body weight with breakfast, 10 mg/kg with lunch, and 20 mg/kg with dinner (total dose 40 mg/kg/day), for up to 96 weeks. Participants were followed for 4 weeks after treatment.

Reporting group title	Placebo/Ataluren

Reporting group description:

Participants who received double-blind placebo during Study 009 received open-label ataluren TID: 10 mg/kg of body weight with breakfast, 10 mg/kg with lunch, and 20 mg/kg with dinner (total dose 40 mg/kg/day), for up to 96 weeks. Participants were followed for 4 weeks after treatment.

Primary: Percentage of Participants With Treatment-Emergent Adverse Events (TEAEs)

End point title	Percentage of Participants With Treatment-Emergent Adverse Events (TEAEs)[1]

End point description:

A TEAE was any untoward medical occurrence in a participant who received study drug without regard to possibility of causal relationship that occurred or worsened in the period extending from the first dose of study drug to 6 weeks after the last dose of study drug. A serious adverse event (SAE) was an adverse event (AE) resulting in any of the following outcomes or deemed significant for any other reason: death; initial or prolonged inpatient hospitalization; life-threatening experience (immediate risk of dying); persistent or significant disability/incapacity; congenital anomaly. AEs included both SAEs and non-serious AEs. AE severity was graded as follows: Grade 1: mild; Grade 2: moderate; Grade 3: severe; Grade 4: life-threatening; Grade 5: fatal. A TEAE was considered related if in the opinion of the Investigator it was possibly or probably caused by the study drug. A summary of other non-serious AEs and all SAEs, regardless of causality is located in the Adverse Events module.

End point type	Primary

End point timeframe:

Baseline (Week 1 [TSW 48]) up to 4 Weeks Post-Treatment (Week 100 [TSW 148]) or Premature Discontinuation (PD) (whichever occurred first)

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 analyses were completed for this safety endpoint.

End point values	Ataluren/Ataluren	Placebo/Ataluren		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	95	96		
Units: percent of participants				
number (not applicable)				
At least 1 TEAE	100.0	97.9		
Grade 1 TEAE	14.7	18.8		
Grade 2 TEAE	62.1	51.0		
Grade 3 TEAE	23.2	26.0		
Grade 4 TEAE	0	1.0		
Grade 5 TEAE	0	1.0		
Unrelated TEAE	29.5	26.0		
Unlikely related TEAE	37.9	33.3		
Possibly related TEAE	28.4	31.3		

Probably related TEAE	4.2	7.3		
Discontinued due to TEAE	2.1	6.3		
Serious TEAE	50.5	57.3		

Statistical analyses

No statistical analyses for this end point

Primary: Number of Participants With any Treatment-Emergent Laboratory Abnormality (TELA)

End point title	Number of Participants With any Treatment-Emergent Laboratory Abnormality (TELA)[2]

End point description:

A TELA was any abnormal laboratory value that started or worsened after administration of study drug. Abnormal values were defined as values outside normal range. Values considered abnormal included - Hepatic: Serum total bilirubin ≥1.5*upper limit of normal (ULN); serum gamma glutamyl transferase >2.5*ULN; serum alanine aminotransferase increase of >150 units/liter (U/L) without increased creatine kinase; -Adrenal: plasma adrenocorticotropic hormone >ULN (normal cortisol); -Renal: serum cystatin C >1.33 mg/L; serum creatinine >ULN–1.5*ULN for age; serum blood urea nitrogen ≥1.5*ULN; urine protein:creatinine >0.40 mg/deciliter (dL):mg/dL; urine protein:osmolality >0.30 mg/L: milliosmoles/kg; urine blood 2+; - Serum Electrolytes: serum sodium >150 millimoles (mmol)/L, <130 mmol/L; serum potassium >5.5, <3.0 mmol/L; serum magnesium >1.23 mmol/L, <0.5 mmol/L; total serum calcium >2.9 mmol/L, <2.0 mmol/L; serum phosphorous <0.8 mmol/L; serum biocarbonate- <16 mmol/L.

End point type	Primary

End point timeframe:

Baseline (Week 1 [TSW 48]) up to 4 Weeks Post-Treatment (Week 100 [TSW 148]) or PD (whichever occurred first)

Notes:

[2] - 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 analyses were completed for this safety endpoint.

End point values	Ataluren/Ataluren	Placebo/Ataluren		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	95	96		
Units: participants				
Renal laboratory abnormality	13	18		
Serum electrolyte laboratory abnormality	39	47		
Hepatic laboratory abnormality	44	49		
Adrenal laboratory abnormality	5	3		

Statistical analyses

No statistical analyses for this end point

Secondary: Percentage of Predicted Function (Percent-Predicted) of Forced Expiratory Volume in 1 Second (FEV1) at Baseline

End point title	Percentage of Predicted Function (Percent-Predicted) of Forced Expiratory Volume in 1 Second (FEV1) at Baseline

End point description:

Spirometry was used to assess pulmonary function by measuring the percent-predicted, which was determined on the basis of the height value obtained at the same study visit, for FEV1 (the amount of air that can be exhaled in 1 second). Spirometry was validated by using current guidelines of the American Thoracic Society (ATS) and European Respiratory Society (ERS). Baseline was defined as Week 1 or the most recent value of percent-predicted FEV1 prior to the first dose of open-label treatment in Study 009e. Here, 'Number Analyzed' signifies participants evaluable for the specified week.

End point type	Secondary

End point timeframe:

Baseline (Week 1 [TSW 48])

End point values	Ataluren/Ataluren	Placebo/Ataluren		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	95	96		
Units: percentage of predicted FEV1				
arithmetic mean (standard deviation)	60.61 (± 17.075)	56.49 (± 15.954)		

Statistical analyses

No statistical analyses for this end point

Secondary: Percentage Change From Baseline in Percent-Predicted of FEV1 at Weeks 48 and 96

End point title	Percentage Change From Baseline in Percent-Predicted of FEV1 at Weeks 48 and 96

End point description:

Spirometry was used to assess pulmonary function by measuring the percent-predicted, which was determined on the basis of the height value obtained at the same study visit, for FEV1 (the amount of air that can be exhaled in 1 second). Spirometry was validated by using current guidelines of the American Thoracic Society (ATS) and European Respiratory Society (ERS). The percentage of change in percent-predicted of FEV1 was calculated as follows: ((percent-predicted FEV1-Baseline percent-predicted FEV1)/Baseline percent-predicted FEV1)*100. Baseline was defined as Week 1 or the most recent value of percent-predicted FEV1 prior to the first dose of open-label treatment in Study 009e. A positive change from Baseline indicates that FEV1 improved. Here, 'n' signifies participants evaluable for the specified week.

End point type	Secondary

End point timeframe:

Week 48 (TSW 96), End of Treatment (EOT) (Week 96 [TSW 144])

End point values	Ataluren/Ataluren	Placebo/Ataluren		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	95	96		
Units: percent change				
arithmetic mean (standard deviation)				

Change From Baseline at Week 48 (n=75, 66)	-0.73 (± 12.170)	1.09 (± 23.025)		
Change From Baseline at Week 96 (n=55, 50)	-3.09 (± 12.304)	-2.12 (± 16.893)		

Statistical analyses

No statistical analyses for this end point

Secondary: Percent-Predicted of Forced Vital Capacity (FVC) at Baseline

End point title	Percent-Predicted of Forced Vital Capacity (FVC) at Baseline

End point description:

Spirometry was used to assess pulmonary function by measuring the %-predicted, which was determined on the basis of the height value obtained at the same study visit, for FVC (the amount of air that can be exhaled after taking a deep breath). Spirometry was validated by using current guidelines of the ATS and ERS. Baseline was defined as Week 1 or the most recent value of percent-predicted FVC prior to the first dose of open-label treatment in Study 009e. Here, 'n' signifies participants evaluable for the specified week.

End point type	Secondary

End point timeframe:

Baseline (Week 1 [TSW 48])

End point values	Ataluren/Ataluren	Placebo/Atalurean		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	95	96		
Units: percentage of predicted FVC				
arithmetic mean (standard deviation)	76.37 (± 15.254)	73.26 (± 14.133)		

Statistical analyses

No statistical analyses for this end point

Secondary: Percentage Change From Baseline in Percent-Predicted of FVC at Weeks 48 and 96

End point title	Percentage Change From Baseline in Percent-Predicted of FVC at Weeks 48 and 96

End point description:

Spirometry was used to assess pulmonary function by measuring the %-predicted, which was determined on the basis of the height value obtained at the same study visit, for FVC (the amount of air that can be exhaled after taking a deep breath). Spirometry was validated by using current guidelines of the ATS and ERS. The percentage of change in %-predicted of FVC was calculated as follows: ((%-predicted FVC-baseline %-predicted FVC)/baseline %-predicted FVC)*100. A positive change from Baseline indicates that FVC improved. Here, 'n' signifies participants evaluable for the specified week.

End point type	Secondary

End point timeframe:

Week 48 (TSW 96), EOT (Week 96 [TSW 144])

End point values	Ataluren/Ataluren	Placebo/Ataluren		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	95	96		
Units: percent change				
arithmetic mean (standard deviation)				
Change From Baseline at Week 48 (n=75, 66)	0.05 (± 10.690)	0.69 (± 15.658)		
Change From Baseline at Week 96 (n=55, 50)	-1.48 (± 11.080)	-1.17 (± 13.940)		

Statistical analyses

No statistical analyses for this end point

Secondary: Percent-Predicted of Forced Expiratory Flow Between 25% and 75% of Expiration (FEF25-75) at Baseline

End point title	Percent-Predicted of Forced Expiratory Flow Between 25% and 75% of Expiration (FEF25-75) at Baseline

End point description:

Spirometry was used to assess pulmonary function by measuring the percent-predicted, which was determined on the basis of the height value obtained at the same study visit, for FEF25-75 (the rate of air flow during the middle part of an exhalation). Spirometry was validated by using current guidelines of the ATS and ERS. Baseline was defined as Week 1 or the most recent value of percent-predicted FEF25-75 prior to the first dose of open-label treatment in Study 009e. Here, 'n' signifies participants evaluable for the specified week.

End point type	Secondary

End point timeframe:

Baseline (Week 1 [TSW 48])

End point values	Ataluren/Ataluren	Placebo/Ataluren		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	95	96		
Units: percentage of predicted FEF25-75				
arithmetic mean (standard deviation)	38.16 (± 24.594)	33.11 (± 23.775)		

Statistical analyses

No statistical analyses for this end point

Secondary: Percentage Change From Baseline in Percent-Predicted of FEF25-75 at Weeks 48 and 96

End point title	Percentage Change From Baseline in Percent-Predicted of FEF25-75 at Weeks 48 and 96

End point description:

Spirometry was used to assess pulmonary function by measuring the percent-predicted, which was determined on the basis of the height value obtained at the same study visit, for FEF25-75 (the rate of air flow during the middle part of an exhalation). Spirometry was validated by using current guidelines of the ATS and ERS. The percentage of change in percent-predicted of FEF25-75 was calculated as follows: ((percent-predicted FEF25-75-Baseline percent-predicted FEF25-75)/Baseline percent-predicted FEF25-75)*100. Baseline was defined as Week 1 or the most recent value of percent-predicted FEF25-75 prior to the first dose of open-label treatment in Study 009e. A positive change from Baseline indicates that FEF25-75 improved. Here, 'n' signifies participants evaluable for the specified week.

End point type	Secondary

End point timeframe:

Week 48 (TSW 96), EOT (Week 96 [TSW 144])

End point values	Ataluren/Ataluren	Placebo/Ataluren		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	95	96		
Units: percent change				
arithmetic mean (standard deviation)				
Change From Baseline at Week 48 (n=75, 66)	-0.55 (± 22.447)	7.89 (± 58.780)		
Change From Baseline at Week 96 (n=55, 50)	-5.55 (± 24.043)	-3.29 (± 25.283)		

Statistical analyses

No statistical analyses for this end point

Secondary: Number of Participants With Pulmonary Exacerbations as Defined by Modified Fuch's Criteria

End point title	Number of Participants With Pulmonary Exacerbations as Defined by Modified Fuch's Criteria

End point description:

A Respiratory Event Form (REF), which collected data on various signs, symptoms, and effects for each event, was completed by the Investigator when informed by the participant of a respiratory event. Pulmonary exacerbations were assessed by using the modified Fuchs' criteria, which defines an exacerbation as a respiratory event requiring treatment with parenteral antibiotics for any 4 of the following 12 symptoms with or without intravenous (IV) antibiotics: change in sputum; new or increased hemoptysis; increased cough; increased dyspnea; fatigue; temperature >38°C; anorexia; sinus pain; change in sinus discharge; change in physical examination of the chest; or decrease in pulmonary function by 10% or more from a previously recorded value; or radiographic changes indicative of pulmonary function.

End point type	Secondary

End point timeframe:

Baseline (Week 1 [TSW 48]) up to Week 48 and EOT (Week 96) (TSW 96 and 144)

End point values	Ataluren/Ataluren	Placebo/Ataluren		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	95	96		
Units: participants				
Week 1 up to Week 48	50	56		
Week 1 up to Week 96	57	68		

Statistical analyses

No statistical analyses for this end point

Secondary: Rate of Pulmonary Exacerbations as Defined by Modified Fuch's Criteria Over 48 Weeks

End point title	Rate of Pulmonary Exacerbations as Defined by Modified Fuch's Criteria Over 48 Weeks

End point description:

A REF, which collected data on various signs, symptoms, and effects for each event, was completed by the Investigator when informed by the participant of a respiratory event. Pulmonary function was assessed by using the modified Fuchs' criteria, which defines an exacerbation as a respiratory event requiring treatment with parenteral antibiotics for any 4 of the following 12 symptoms with or without treatment with IV antibiotics: change in sputum; new or increased hemoptysis; increased cough; increased dyspnea; fatigue; temperature >38°C; anorexia; sinus pain; change in sinus discharge; change in physical examination of the chest; decrease in pulmonary function by 10% or more from a previously recorded value; or radiographic changes indicative of pulmonary function. The 48-week exacerbation rate was determined by adding the weekly rates for each arm for each 48-week period and dividing the sum by 48.

End point type	Secondary

End point timeframe:

Baseline (Week 1 [TSW 48]) up to Week 48 (TSW 96)

End point values	Ataluren/Ataluren	Placebo/Ataluren		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	95	96		
Units: exacerbations				
arithmetic mean (confidence interval 95%)	1.150 (0.843 to 1.457)	1.614 (1.163 to 2.064)		

Statistical analyses

No statistical analyses for this end point

Secondary: Duration of Pulmonary Exacerbations as Defined by Modified Fuch's Criteria

End point title	Duration of Pulmonary Exacerbations as Defined by Modified Fuch's Criteria

End point description:

A REF, which collected data on various signs, symptoms, and effects for each event, was completed by the Investigator when informed by the participant of a respiratory event. Pulmonary function was assessed by using the modified Fuchs' criteria (a respiratory event requiring treatment with parenteral antibiotics for 4 of 12 symptoms with or without treatment with IV antibiotics: change in sputum; new or increased hemoptysis; increased cough; increased dyspnea; fatigue; temperature >38°C; anorexia; sinus pain; change in sinus discharge; change in physical examination of the chest; decrease in pulmonary function by 10% or more from a previously recorded value; or radiographic changes indicative of pulmonary function). Duration over a 5-week interval is presented. Duration was calculated as follows: estimated date of return to a stable state (as determined by the Investigator)-estimated date of onset of symptoms. 'n' signifies participants evaluable for the specified week.

End point type	Secondary

End point timeframe:

Weeks 43 up to 48 and Weeks 91 up to 96 (TSW 91 up to 96 and TSW 139 up to 144)

End point values	Ataluren/Ataluren	Placebo/Atalure n		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	95	96		
Units: days				
arithmetic mean (confidence interval 95%)				
Week 43 up to Week 48 (n=80, 79)	3.675 (1.394 to 5.956)	4.734 (2.258 to 7.210)		
Week 91 up to Week 96 (n=60, 57)	3.567 (1.124 to 6.010)	3.912 (1.742 to 6.083)		

Statistical analyses

No statistical analyses for this end point

Secondary: Number of Participants With Severe Pulmonary Exacerbations as Defined by Modified Fuch's Criteria

End point title	Number of Participants With Severe Pulmonary Exacerbations as Defined by Modified Fuch's Criteria

End point description:

A REF, which collected data on various signs, symptoms, and effects for each event, was completed by the Investigator when informed by the participant of a respiratory event. Pulmonary function was assessed by using the modified Fuchs' criteria (a respiratory event requiring treatment with parenteral antibiotics for 4 of 12 symptoms with or without treatment with IV antibiotics: change in sputum; new or increased hemoptysis; increased cough; increased dyspnea; fatigue; temperature >38°C; anorexia; sinus pain; change in sinus discharge; change in physical examination of the chest; decrease in pulmonary function by 10% or more from a previously recorded value; or radiographic changes indicative of pulmonary function). Severity of pulmonary exacerbations over a 5-week interval is presented. The severity of pulmonary exacerbations were graded as mild, moderate, or severe. Here, 'n' signifies participants evaluable for the specified week.

End point type	Secondary

End point timeframe:

Weeks 43 up to 48 and Weeks 91 up to 96 (TSW 91 up to 96 and TSW 139 up to 144)

End point values	Ataluren/Ataluren	Placebo/Ataluren		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	95	96		
Units: participants				
Week 43 up to Week 48 (n=71, 73)	1	1		
Week 91 up to Week 96 (n=53, 49)	0	1		

Statistical analyses

No statistical analyses for this end point

Secondary: Change From Baseline for the Respiratory Domain Score of the Cystic Fibrosis Questionnaire-Revised (CFQ-R) at Weeks 48 and 96

End point title	Change From Baseline for the Respiratory Domain Score of the Cystic Fibrosis Questionnaire-Revised (CFQ-R) at Weeks 48 and 96

End point description:

The CFQ-R consists of 44 items, including generic scales (physical and role functioning, vitality, health perceptions, emotional and social functioning), and cystic fibrosis (CF)-specific scales (respiratory and digestive symptoms, body image, eating disturbances, and treatment burden). Scores range from 1 to 4; higher scores indicate better quality of life (QOL). For some questions, the scale was reversed, so that 1 indicated better QOL. Domain scores were linearly transformed to a 0-100 scale, so that higher scores indicate better QOL. Domain scores were calculated as follows: 100*(sum of responses-minimum possible sum)/(maximum possible sum-minimum possible sum). Minimum possible sum=number of questions*1; maximum possible=the number of questions*4. Baseline=Week 1. A negative change from Baseline indicates that health has worsened. Participants may have switched age groups during the study. 'n' signifies participants evaluable for specified categories. 99999=Data Not Available

End point type	Secondary

End point timeframe:

Baseline (Week 1 [TSW 48]), Week 48 (TSW 96), EOT (Week 96 [TSW 144])

End point values	Ataluren/Ataluren	Placebo/Ataluren		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	95	96		
Units: units on a scale				
arithmetic mean (standard deviation)				
6-11 years (y), Baseline (n=8, 3)	83.333 (± 8.9087)	86.111 (± 17.3472)		
6-11 y, Change From Baseline, Week 48 (n=7, 3)	-13.095 (± 19.7538)	-0 (± 0)		
6-11 y, Change From Baseline, Week 96 (n=6, 1)	-5.556 (± 10.0922)	0 (± 99999)		
12-13 y, Baseline (n=6, 3)	75.000 (± 16.6667)	63.889 (± 4.8113)		
12-13 y, Change From Baseline, Week 48 (n=2, 2)	0 (± 11.7851)	16.667 (± 0)		
12-13 y, Change From Baseline, Week 96 (n=0, 0)	99999 (± 99999)	99999 (± 99999)		
≥14 y, Baseline (n=80, 90)	66.181 (± 20.5449)	65.123 (± 18.1322)		

≥14 y, Change From Baseline, Week 48 (n=64, 64)	2.691 (± 17.4280)	3.819 (± 16.2311)		
≥14 y, Change From Baseline, Week 96 (n=43, 51)	5.039 (± 16.4811)	1.307 (± 20.9228)		
All ages, Baseline (n=94, 96)	68.203 (± 20.1408)	65.567 (± 18.1927)		
All ages, Change From Baseline, Week 48 (n=77, 70)	0.722 (± 17.7087)	4.365 (± 16.0206)		
All ages, Change From Baseline, Week 96 (n=56, 53)	3.274 (± 16.5408)	1.625 (± 20.6684)		

Statistical analyses

No statistical analyses for this end point

Secondary: Rate of Study Drug Compliance

End point title	Rate of Study Drug Compliance

End point description:

The rate of compliance was defined as the number of actual doses taken divided by the number of planned doses * 100. Participant-reported data were obtained from the participant's compliance log, which was completed by the participant or the caregiver. The participant or caregiver reported how many doses were taken. Compliance by drug accountability was determined by counting used and unused study drug sachets. All calculations were based on the records of the first dose date to the last dose date. Here, 'n' signifies participants evaluable for specified categories.

End point type	Secondary

End point timeframe:

Baseline (Week 1 [TSW 48]) up to EOT (Week 96 [TSW 144])

End point values	Ataluren/Ataluren	Placebo/Ataluren		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	95	96		
Units: percent of doses taken				
median (full range (min-max))				
By drug accountability (n=95, 96)	86.057 (27.03 to 106.06)	80.118 (0 to 100.74)		
By participant-reported data (n=91, 93)	81.50 (0 to 99.9)	78.59 (0 to 99.7)		

Statistical analyses

No statistical analyses for this end point

Secondary: Predose Concentration of Ataluren

End point title	Predose Concentration of Ataluren

End point description:

Blood samples were drawn immediately before administration of the first daily dose (dose taken with breakfast) of ataluren. Whenever possible, the predose sample was to be obtained within 15 minutes of

study ataluren administration. Here, 'n' signifies participants evaluable for the specified week.

End point type	Secondary

End point timeframe:

Predose at Weeks 1, 16, 32, 48, 64, 80 and EOT (Week 96) (TSW 48, 64, 80 96, 112, 128, and 144, respectively)

End point values	Ataluren/Ataluren	Placebo/Ataluren		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	95	96		
Units: micrograms/milliliter (ug/mL)				
arithmetic mean (standard deviation)				
Week 1 (n=6, 7)	1.668 (± 3.6279)	0 (± 0)		
Week 16 (n=90, 90)	5.744 (± 5.7198)	7.552 (± 8.3963)		
Week 32 (n=80, 78)	6.298 (± 7.1222)	7.694 (± 7.9796)		
Week 48 (n=78, 69)	5.874 (± 6.8533)	6.981 (± 6.8874)		
Week 64 (n=65, 61)	5.227 (± 4.7054)	5.703 (± 6.2718)		
Week 80 (n=58, 59)	6.126 (± 6.4939)	4.902 (± 5.9218)		
Week 96 (n=57, 53)	6.390 (± 6.8861)	5.435 (± 6.5315)		

Statistical analyses

No statistical analyses for this end point

Secondary: Number of Participants Who Required Interventions for Pulmonary Symptoms

End point title	Number of Participants Who Required Interventions for Pulmonary Symptoms

End point description:

During treatment, any interventions including hospitalization or use of oral, inhaled, or intravenous antibiotics was documented if it was due to an exacerbation-like episode. A summary of other non-serious AEs and all SAEs, regardless of causality is located in the Adverse Events module.

End point type	Secondary

End point timeframe:

Baseline (Week 1 [TSW 48]) up to EOT (Week 96 [TSW 144])

End point values	Ataluren/Ataluren	Placebo/Ataluren		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	95	96		
Units: participants				
Hospitalization	44	49		
Use of Inhaled Antibiotics	10	18		
Use of Intravenous Antibiotics	80	80		

Statistical analyses

No statistical analyses for this end point

Secondary: Number of Participants With Disruptions in Activities of Daily Living Because of Pulmonary Symptoms

End point title	Number of Participants With Disruptions in Activities of Daily Living Because of Pulmonary Symptoms

End point description:

During treatment, participants reported when they missed school or work because of pulmonary symptoms. A summary of other non-serious AEs and all SAEs, regardless of causality is located in the Adverse Events module.

End point type	Secondary

End point timeframe:

Baseline (Week 1 [TSW 48]) up to EOT (Week 96 [TSW 144])

End point values	Ataluren/Ataluren	Placebo/Ataluren		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	95	96		
Units: participants				
Missed at Least 1 Day of School	23	25		
Missed at Least 1 Day of Work	27	25		

Statistical analyses

No statistical analyses for this end point

Secondary: Duration of Disruptions in Activities of Daily Living Because of Pulmonary Symptoms

End point title	Duration of Disruptions in Activities of Daily Living Because of Pulmonary Symptoms

End point description:

During treatment, participants reported when they missed school or work because of pulmonary symptoms. If Event Date was before Day 1 (Baseline) Date, Study Day = Event Date – First Dose Date. If Event Date was on or after Day 1 Date, Study Day = Event Date – First Dose Date + 1. The Duration = Return to Stable Date – Onset Date. Participants with a respiratory event that was ongoing when the participant was discontinued from the study were considered as not evaluable. A summary of other non-

serious AEs and all SAEs, regardless of causality is located in the Adverse Events module.

End point type	Secondary

End point timeframe:

Baseline (Week 1 [TSW 48]) up to EOT (Week 96 [TSW 144])

End point values	Ataluren/Ataluren	Placebo/Atalure n		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	95[3]	96[4]		
Units: days				
median (full range (min-max))				
Missed at Least 1 Day of School	25.0 (7 to 187)	21.5 (4 to 112)		
Missed at Least 1 Day of Work	25.0 (1 to 161)	22.0 (1 to 131)		

Notes:

[3] - Data were collected but not summarized for this endpoint.

[4] - Data were collected but not summarized for this endpoint.

Statistical analyses

No statistical analyses for this end point

Secondary: Change From Baseline in Body Weight at Weeks 48 and 96

End point title	Change From Baseline in Body Weight at Weeks 48 and 96

End point description:

Participants were weighed, and the weight was recorded at Baseline and then every 8 weeks during the treatment period. Baseline was Week 1. A positive change from Baseline indicates that weight increased. Here, 'n' signifies participants evaluable for the specified week.

End point type	Secondary

End point timeframe:

Baseline (Week 1 [TSW 48]), Week 48 (TSW 96), EOT (Week 96 [TSW 144])

End point values	Ataluren/Ataluren	Placebo/Atalure n		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	95	96		
Units: kg				
arithmetic mean (standard deviation)				
Baseline (n=95, 96)	53.354 (± 13.5601)	57.444 (± 11.7890)		
Change From Baseline at Week 48 (n=78, 70)	1.232 (± 2.8322)	0.540 (± 2.8287)		
Change From Baseline at Week 96 (n=57, 53)	2.149 (± 5.0803)	0.830 (± 3.6440)		

Statistical analyses

No statistical analyses for this end point

Secondary: Change From Baseline in Body Mass Index (BMI) at Weeks 48 and 96

End point title	Change From Baseline in Body Mass Index (BMI) at Weeks 48 and 96

End point description:

Participants were weighed and measured and the weight and height were recorded at each visit. The BMI was determined by dividing the participant's weight by his or her height. Baseline was Week 1. A positive change from Baseline indicates that BMI increased. Here, 'n' signifies participants evaluable for the specified week.

End point type	Secondary

End point timeframe:

Baseline (Week 1 [TSW 48]), Week 48 (TSW 96), EOT (Week 96 [TSW 144])

End point values	Ataluren/Ataluren	Placebo/Ataluren		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	95	96		
Units: kg/square meter (kg/m^2)				
arithmetic mean (standard deviation)				
Baseline (n=95, 96)	20.023 (± 3.3136)	21.044 (± 2.7735)		
Change From Baseline at Week 48 (n=78, 70)	0.179 (± 0.8323)	0.102 (± 0.9179)		
Change From Baseline at Week 96 (n=57, 53)	0.144 (± 1.1404)	0.105 (± 1.1885)		

Statistical analyses

No statistical analyses for this end point

Secondary: Total Lung Computed Tomography (CT) Score at Weeks 48 and 96

End point title	Total Lung Computed Tomography (CT) Score at Weeks 48 and 96

End point description:

Lungs were imaged by using non-contrast, spiral CT. The administration of CT scans was discontinued for this study via a memorandum sent to all Investigators, based on the results of Study 009, which showed that this exploratory endpoint failed to discriminate active treatment from placebo over the 48-week study period. Therefore, this Endpoint was removed from the study as a Secondary Endpoint and the CT scans that were administered for this study were not reviewed or analyzed for this Endpoint. Here, 'Number analyzed' signifies the number of participants analyzed for the specified weeks for this Endpoint.

End point type	Secondary

End point timeframe:

Week 48 (TSW 96) and EOT (Week 96 [TSW 144])

End point values	Ataluren/Ataluren	Placebo/Ataluren		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	0[5]	0[6]		
Units: units on a scale				
arithmetic mean (standard deviation)				
Week 48	()	()		
Week 96	()	()		

Notes:

[5] - No CT data from this study were reviewed or analyzed.

[6] - No CT data from this study were reviewed or analyzed.

Statistical analyses

No statistical analyses for this end point

Secondary: Change From Baseline in the Nasal Transepithelial Potential Difference (TEPD) at Week 48

End point title	Change From Baseline in the Nasal Transepithelial Potential Difference (TEPD) at Week 48

End point description:

TEPD was to be assessed in each nostril by using standardized equipment, techniques, and solutions. Collection of nasal TEPD tracings was discontinued for this study via a memorandum sent to all Investigators, based on the results of Study 009, which showed that this biomarker failed to discriminate active treatment from placebo over the 48-week study period. Therefore, this Endpoint was removed from the study as a Secondary Endpoint and none of the nasal TEPD tracings were reviewed or analyzed for this Endpoint. Here, 'Number analyzed' signifies the number of participants analyzed for the specified weeks for this Endpoint.

End point type	Secondary

End point timeframe:

Baseline (Week 1 [TSW 48]) and Week 48 (TSW 96)

End point values	Ataluren/Ataluren	Placebo/Ataluren		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	0[7]	0[8]		
Units: millivolts				
arithmetic mean (standard deviation)				
Baseline	()	()		
Change From Baseline at Week 48	()	()		

Notes:

[7] - None of the nasal TEPD tracings were reviewed or analyzed.

[8] - None of the nasal TEPD tracings were reviewed or analyzed.

Statistical analyses

No statistical analyses for this end point

Secondary: Change From Baseline in the Concentration of Sweat Chloride at Week 48

End point title	Change From Baseline in the Concentration of Sweat Chloride at Week 48

End point description:

Sweat was collected, from each arm, by using pilocarpine iontophoresis. The chloride concentration in the sweat was quantified for each arm by using standard laboratory methods. Tests were considered valid if the sweat collection time was ≤35 minutes; tests with longer collection times were also considered valid if extra time was needed to obtain sufficient volume (≥15 uL) for analysis. For analysis purposes, the average of the values from each arm were computed. If the assessment was valid and/or available in only 1 arm, this value was used as if it were the average of both arms. The method used was consistent with the guidelines of the Cystic Fibrosis Foundation Therapeutics - Therapeutic Development Network. Baseline was the most recent value of sweat chloride prior to treatment in Study 009e. A positive change from Baseline indicates that sweat chloride concentration increased. Here, 'n' signifies participants evaluable for the specified week.

End point type	Secondary

End point timeframe:

Baseline (Week 1 [TSW 48]), Week 48 (TSW 96)

End point values	Ataluren/Ataluren	Placebo/Ataluren		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	94[9]	92[10]		
Units: mmol/L				
arithmetic mean (standard deviation)				
Baseline (n=94, 92)	100.26 (± 13.602)	97.88 (± 16.444)		
Change From Baseline at Week 48 (n=48, 41)	5.34 (± 10.062)	3.60 (± 14.422)		

Notes:

[9] - One participant in the ataluren/ataluren group was not evaluable.

[10] - Four participants in the placebo/ataluren group were not evaluable.

Statistical analyses

No statistical analyses for this end point

Post-hoc: Percent-Predicted of FEV1 in the 96-Week Completer Population at Baseline

End point title	Percent-Predicted of FEV1 in the 96-Week Completer Population at Baseline

End point description:

Spirometry was used to assess pulmonary function by measuring the percent-predicted (determined with the height value obtained at the same study visit) for FEV1 (the amount of air exhaled in 1 second). Spirometry was validated with current guidelines of the ATS and ERS. Baseline was defined as Week 1 or the most recent value of percent-predicted FEV1 prior to the first dose of open-label treatment in Study 009e. Analyses of the Study 009/009e 96-Week Completer Population, which included participants who completed 48 weeks of treatment with ataluren or placebo in Study 009 and ≥48 weeks of treatment with ataluren in Study 009e, complemented analyses of the Study 009e As-Treated population. 'n' signifies participants evaluable for the specified week.

End point type	Post-hoc

End point timeframe:

Baseline (Week 1 [TSW 48])

End point values	Ataluren/Ataluren	Placebo/Ataluren		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	78	70		
Units: percentage of predicted FEV1				
arithmetic mean (standard deviation)	60.89 (± 13.320)	59.50 (± 15.622)		

Statistical analyses

No statistical analyses for this end point

Post-hoc: Percentage Change From Baseline in Percent-Predicted of FEV1 in the 96-Week Completer Population Over a Total of 96 Weeks of Treatment

End point title	Percentage Change From Baseline in Percent-Predicted of FEV1 in the 96-Week Completer Population Over a Total of 96 Weeks of Treatment

End point description:

Spirometry was used to assess pulmonary function by measuring the percent-predicted (determined with the height value obtained at the same study visit) for FEV1 (the amount of air exhaled in 1 second). Spirometry was validated with current guidelines of the ATS and ERS. The percentage of change in percent-predicted of FEV1 was calculated as follows: ((percent-predicted FEV1-Baseline percent-predicted FEV1)/Baseline percent-predicted FEV1)*100. Baseline was defined as Week 1 or the most recent value of percent-predicted FEV1 prior to the first dose of open-label treatment in Study 009e. A positive change from Baseline indicates that FEV1 improved. Analyses of the Study 009/009e 96-Week Completer Population, which included participants who completed 48 weeks of treatment with ataluren or placebo in Study 009 and ≥48 weeks of treatment with ataluren in Study 009e, complemented analyses of the Study 009e As-Treated population. 'n' signifies participants evaluable for the specified week.

End point type	Post-hoc

End point timeframe:

Week 48 (TSW 96)

End point values	Ataluren/Ataluren	Placebo/Ataluren		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	78	70		
Units: percent change				
arithmetic mean (standard deviation)				
Change From Baseline at TSW 96 (n=78, 70)	-1.63 (± 13.239)	-5.13 (± 12.061)		

Statistical analyses

No statistical analyses for this end point

Post-hoc: Percent-Predicted of FEV1 in the 144-Week Completer Population at Baseline

End point title	Percent-Predicted of FEV1 in the 144-Week Completer

	Population at Baseline

End point description:

Spirometry was used to assess pulmonary function by measuring the percent-predicted (determined with the height value obtained at the same study visit) for FEV1 (the amount of air exhaled in 1 second). Spirometry was validated with current guidelines of the ATS and ERS. Baseline was defined as Week 1 or the most recent value of percent-predicted FEV1 prior to the first dose of open-label treatment in Study 009e. Analyses of the study 009/009e 144-Week Completer Population, which included participants who completed 48 weeks of treatment with ataluren or placebo in Study 009 and ≥96 weeks of treatment with ataluren in Study 009e, complemented analyses of the Study 009e As-Treated population. 'n' signifies participants evaluable for the specified week.

End point type	Post-hoc

End point timeframe:

Baseline (Week 1 [TSW 48])

End point values	Ataluren/Ataluren	Placebo/Ataluren		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	57	54		
Units: percentage of predicted FEV1				
arithmetic mean (standard deviation)	61.68 (± 13.790)	60.28 (± 16.202)		

Statistical analyses

No statistical analyses for this end point

Post-hoc: Percentage Change From Baseline in Percent-Predicted of FEV1 in the 144-week Completer Population Over a Total of 144 Weeks of Treatment

End point title	Percentage Change From Baseline in Percent-Predicted of FEV1 in the 144-week Completer Population Over a Total of 144 Weeks of Treatment

End point description:

Spirometry was used to assess pulmonary function by measuring the percent-predicted (determined with the height value obtained at the same study visit) for FEV1 (the amount of air exhaled in 1 second). Spirometry was validated with current guidelines of the ATS and ERS. The percentage of change in percent-predicted of FEV1 was calculated as follows: ((percent-predicted FEV1-Baseline percent-predicted FEV1)/Baseline percent-predicted FEV1)*100. Baseline was defined as Week 1 or the most recent value of percent-predicted FEV1 prior to the first dose of open-label treatment in Study 009e. A positive change from Baseline indicates that FEV1 improved. Analyses of the study 009/009e 144-Week Completer Population, which included participants who completed 48 weeks of treatment with ataluren or placebo in Study 009 and ≥96 weeks of treatment with ataluren in Study 009e, complemented analyses of the Study 009e As-Treated population. 'n' signifies participants evaluable for the specified week.

End point type	Post-hoc

End point timeframe:

EOT (Week 96 [TSW 144])

End point values	Ataluren/Ataluren	Placebo/Ataluren		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	57	54		
Units: percent change				
arithmetic mean (standard deviation)				
Change From Baseline at TSW 144 (n=55, 50)	-3.69 (± 16.068)	-5.89 (± 14.854)		

Statistical analyses

No statistical analyses for this end point

Adverse events

Adverse events information

Timeframe for reporting adverse events:

Baseline (Week 1 [TSW 48]) up to 4 Weeks Post-Treatment (Week 100 [TSW 148]) or PD (whichever occurred first)

Adverse event reporting additional description:

The Study 009e As-Treated Population: participants who received at least 1 dose of study drug.

Assessment type	Systematic

Dictionary used

Dictionary name	MedDRA
Dictionary version	16

Reporting groups

Reporting group title	Ataluren/Ataluren

Reporting group description:

Participants who received double-blind ataluren during Study 009 continued to receive open-label ataluren TID: 10 mg/kg of body weight with breakfast, 10 mg/kg with lunch, and 20 mg/kg with dinner (total dose 40 mg/kg/day), for up to 96 weeks. Participants were followed for 4 weeks after treatment.

Reporting group title	Placebo/Ataluren

Reporting group description:

Participants who received double-blind placebo during Study 009 received open-label ataluren TID: 10 mg/kg of body weight with breakfast, 10 mg/kg with lunch, and 20 mg/kg with dinner (total dose 40 mg/kg/day), for up to 96 weeks. Participants were followed for 4 weeks after treatment.

Reporting group title	Overall Population

Reporting group description:

Participants who received double-blind ataluren or placebo during Study 009 received open-label ataluren TID: 10 mg/kg of body weight with breakfast, 10 mg/kg with lunch, and 20 mg/kg with dinner (total dose 40 mg/kg/day), for up to 96 weeks. Participants were followed for 4 weeks after treatment.

Serious adverse events	Ataluren/Ataluren	Placebo/Ataluren	Overall Population
Total subjects affected by serious adverse events			
subjects affected / exposed	48 / 95 (50.53%)	57 / 96 (59.38%)	105 / 191 (54.97%)
number of deaths (all causes)	0	1	1
number of deaths resulting from adverse events			
Neoplasms benign, malignant and unspecified (incl cysts and polyps)			
Bile duct cancer			
subjects affected / exposed	0 / 95 (0.00%)	1 / 96 (1.04%)	1 / 191 (0.52%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 1	0 / 1
Vascular disorders			
Axillary vein thrombosis			

subjects affected / exposed	0 / 95 (0.00%)	1 / 96 (1.04%)	1 / 191 (0.52%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
General disorders and administration site conditions			
General physical health deterioration			
subjects affected / exposed	0 / 95 (0.00%)	1 / 96 (1.04%)	1 / 191 (0.52%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Malaise			
subjects affected / exposed	1 / 95 (1.05%)	0 / 96 (0.00%)	1 / 191 (0.52%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Respiratory, thoracic and mediastinal disorders			
Cystic fibrosis lung			
subjects affected / exposed	41 / 95 (43.16%)	45 / 96 (46.88%)	86 / 191 (45.03%)
occurrences causally related to treatment / all	0 / 84	0 / 90	0 / 174
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Haemoptysis			
subjects affected / exposed	2 / 95 (2.11%)	1 / 96 (1.04%)	3 / 191 (1.57%)
occurrences causally related to treatment / all	0 / 6	0 / 1	0 / 7
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Nasal polyps			
subjects affected / exposed	1 / 95 (1.05%)	1 / 96 (1.04%)	2 / 191 (1.05%)
occurrences causally related to treatment / all	0 / 1	0 / 1	0 / 2
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Pneumothorax			
subjects affected / exposed	0 / 95 (0.00%)	1 / 96 (1.04%)	1 / 191 (0.52%)
occurrences causally related to treatment / all	0 / 0	0 / 2	0 / 2
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Injury, poisoning and procedural complications			
Overdose			

subjects affected / exposed	1 / 95 (1.05%)	0 / 96 (0.00%)	1 / 191 (0.52%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Congenital, familial and genetic disorders			
Cystic fibrosis related diabetes			
subjects affected / exposed	1 / 95 (1.05%)	0 / 96 (0.00%)	1 / 191 (0.52%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Nervous system disorders			
Cauda equina syndrome			
subjects affected / exposed	0 / 95 (0.00%)	1 / 96 (1.04%)	1 / 191 (0.52%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Dysaesthesia			
subjects affected / exposed	0 / 95 (0.00%)	1 / 96 (1.04%)	1 / 191 (0.52%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Serotonin syndrome			
subjects affected / exposed	0 / 95 (0.00%)	1 / 96 (1.04%)	1 / 191 (0.52%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Blood and lymphatic system disorders			
Neutropenia			
subjects affected / exposed	0 / 95 (0.00%)	1 / 96 (1.04%)	1 / 191 (0.52%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Gastrointestinal disorders			
Distal intestinal obstruction syndrome			
subjects affected / exposed	0 / 95 (0.00%)	2 / 96 (2.08%)	2 / 191 (1.05%)
occurrences causally related to treatment / all	0 / 0	0 / 2	0 / 2
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Abdominal pain			

subjects affected / exposed	1 / 95 (1.05%)	0 / 96 (0.00%)	1 / 191 (0.52%)
occurrences causally related to treatment / all	1 / 1	0 / 0	1 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Annual fistula			
subjects affected / exposed	0 / 95 (0.00%)	1 / 96 (1.04%)	1 / 191 (0.52%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Crohn's disease			
subjects affected / exposed	0 / 95 (0.00%)	1 / 96 (1.04%)	1 / 191 (0.52%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Erosive oesophagitis			
subjects affected / exposed	1 / 95 (1.05%)	0 / 96 (0.00%)	1 / 191 (0.52%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Gastric ulcer			
subjects affected / exposed	0 / 95 (0.00%)	1 / 96 (1.04%)	1 / 191 (0.52%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Haematemesis			
subjects affected / exposed	1 / 95 (1.05%)	0 / 96 (0.00%)	1 / 191 (0.52%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Ileus			
subjects affected / exposed	0 / 95 (0.00%)	1 / 96 (1.04%)	1 / 191 (0.52%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Intussusception			
subjects affected / exposed	0 / 95 (0.00%)	1 / 96 (1.04%)	1 / 191 (0.52%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Pancreatitis			

subjects affected / exposed	1 / 95 (1.05%)	0 / 96 (0.00%)	1 / 191 (0.52%)
occurrences causally related to treatment / all	1 / 3	0 / 0	1 / 3
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Pancreatitis acute			
subjects affected / exposed	0 / 95 (0.00%)	1 / 96 (1.04%)	1 / 191 (0.52%)
occurrences causally related to treatment / all	0 / 0	1 / 1	1 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Hepatobiliary disorders			
Jaundice			
subjects affected / exposed	0 / 95 (0.00%)	1 / 96 (1.04%)	1 / 191 (0.52%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Renal and urinary disorders			
Calculus ureteric			
subjects affected / exposed	1 / 95 (1.05%)	1 / 96 (1.04%)	2 / 191 (1.05%)
occurrences causally related to treatment / all	1 / 1	1 / 1	2 / 2
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Nephrolithiasis			
subjects affected / exposed	0 / 95 (0.00%)	2 / 96 (2.08%)	2 / 191 (1.05%)
occurrences causally related to treatment / all	0 / 0	1 / 2	1 / 2
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Haematuria			
subjects affected / exposed	1 / 95 (1.05%)	0 / 96 (0.00%)	1 / 191 (0.52%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Hydronephrosis			
subjects affected / exposed	0 / 95 (0.00%)	1 / 96 (1.04%)	1 / 191 (0.52%)
occurrences causally related to treatment / all	0 / 0	1 / 1	1 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Hypercreatininaemia			
subjects affected / exposed	0 / 95 (0.00%)	1 / 96 (1.04%)	1 / 191 (0.52%)
occurrences causally related to treatment / all	0 / 0	1 / 1	1 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Nephritis interstitial			

subjects affected / exposed	0 / 95 (0.00%)	1 / 96 (1.04%)	1 / 191 (0.52%)
occurrences causally related to treatment / all	0 / 0	1 / 1	1 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Renal failure			
subjects affected / exposed	1 / 95 (1.05%)	0 / 96 (0.00%)	1 / 191 (0.52%)
occurrences causally related to treatment / all	1 / 1	0 / 0	1 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Renal failure acute			
subjects affected / exposed	0 / 95 (0.00%)	1 / 96 (1.04%)	1 / 191 (0.52%)
occurrences causally related to treatment / all	0 / 0	1 / 1	1 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Dysuria			
subjects affected / exposed	1 / 95 (1.05%)	0 / 96 (0.00%)	1 / 191 (0.52%)
occurrences causally related to treatment / all	1 / 1	0 / 0	1 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Musculoskeletal and connective tissue disorders			
Back pain			
subjects affected / exposed	1 / 95 (1.05%)	0 / 96 (0.00%)	1 / 191 (0.52%)
occurrences causally related to treatment / all	1 / 1	0 / 0	1 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Musculoskeletal pain			
subjects affected / exposed	1 / 95 (1.05%)	0 / 96 (0.00%)	1 / 191 (0.52%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Infections and infestations			
Acute sinusitis			
subjects affected / exposed	1 / 95 (1.05%)	1 / 96 (1.04%)	2 / 191 (1.05%)
occurrences causally related to treatment / all	0 / 2	0 / 1	0 / 3
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Mycobacterium abscessus infection			
subjects affected / exposed	1 / 95 (1.05%)	1 / 96 (1.04%)	2 / 191 (1.05%)
occurrences causally related to treatment / all	0 / 1	0 / 1	0 / 2
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0

Anal abscess			
subjects affected / exposed	0 / 95 (0.00%)	1 / 96 (1.04%)	1 / 191 (0.52%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Bronchopulmonary aspergillosis allergic			
subjects affected / exposed	0 / 95 (0.00%)	1 / 96 (1.04%)	1 / 191 (0.52%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Burkholderia cepacia infection			
subjects affected / exposed	1 / 95 (1.05%)	0 / 96 (0.00%)	1 / 191 (0.52%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Catheter sepsis			
subjects affected / exposed	1 / 95 (1.05%)	0 / 96 (0.00%)	1 / 191 (0.52%)
occurrences causally related to treatment / all	0 / 2	0 / 0	0 / 2
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Cellulitis			
subjects affected / exposed	1 / 95 (1.05%)	0 / 96 (0.00%)	1 / 191 (0.52%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Gastroenteritis			
subjects affected / exposed	0 / 95 (0.00%)	1 / 96 (1.04%)	1 / 191 (0.52%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Influenza			
subjects affected / exposed	1 / 95 (1.05%)	0 / 96 (0.00%)	1 / 191 (0.52%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Lobar pneumonia			
subjects affected / exposed	1 / 95 (1.05%)	0 / 96 (0.00%)	1 / 191 (0.52%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Lung infection pseudomonal			

subjects affected / exposed	0 / 95 (0.00%)	1 / 96 (1.04%)	1 / 191 (0.52%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Parainfluenzae virus infection			
subjects affected / exposed	0 / 95 (0.00%)	1 / 96 (1.04%)	1 / 191 (0.52%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Pneumonia			
subjects affected / exposed	1 / 95 (1.05%)	0 / 96 (0.00%)	1 / 191 (0.52%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Respiratory tract infection bacterial			
subjects affected / exposed	1 / 95 (1.05%)	0 / 96 (0.00%)	1 / 191 (0.52%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Sepsis			
subjects affected / exposed	0 / 95 (0.00%)	1 / 96 (1.04%)	1 / 191 (0.52%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Sinusitis			
subjects affected / exposed	1 / 95 (1.05%)	0 / 96 (0.00%)	1 / 191 (0.52%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Viral infection			
subjects affected / exposed	0 / 95 (0.00%)	1 / 96 (1.04%)	1 / 191 (0.52%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Viral pharyngitis			
subjects affected / exposed	1 / 95 (1.05%)	0 / 96 (0.00%)	1 / 191 (0.52%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Viral upper respiratory tract infection			

subjects affected / exposed	1 / 95 (1.05%)	0 / 96 (0.00%)	1 / 191 (0.52%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Metabolism and nutrition disorders			
Hyperglycaemia			
subjects affected / exposed	1 / 95 (1.05%)	0 / 96 (0.00%)	1 / 191 (0.52%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Hyponatraemia			
subjects affected / exposed	1 / 95 (1.05%)	0 / 96 (0.00%)	1 / 191 (0.52%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0

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

Non-serious adverse events	Ataluren/Ataluren	Placebo/Ataluren	Overall Population
Total subjects affected by non-serious adverse events			
subjects affected / exposed	95 / 95 (100.00%)	94 / 96 (97.92%)	189 / 191 (98.95%)
Investigations			
Pulmonary function test decreased			
subjects affected / exposed	9 / 95 (9.47%)	3 / 96 (3.13%)	12 / 191 (6.28%)
occurrences (all)	10	3	13
Nervous system disorders			
Headache			
subjects affected / exposed	12 / 95 (12.63%)	14 / 96 (14.58%)	26 / 191 (13.61%)
occurrences (all)	27	34	61
General disorders and administration site conditions			
Pyrexia			
subjects affected / exposed	19 / 95 (20.00%)	19 / 96 (19.79%)	38 / 191 (19.90%)
occurrences (all)	30	54	84
Fatigue			
subjects affected / exposed	4 / 95 (4.21%)	13 / 96 (13.54%)	17 / 191 (8.90%)
occurrences (all)	5	19	24
Immune system disorders			

Drug hypersensitivity			
subjects affected / exposed	2 / 95 (2.11%)	7 / 96 (7.29%)	9 / 191 (4.71%)
occurrences (all)	2	7	9
Gastrointestinal disorders			
Diarrhoea			
subjects affected / exposed	13 / 95 (13.68%)	16 / 96 (16.67%)	29 / 191 (15.18%)
occurrences (all)	19	31	50
Abdominal pain			
subjects affected / exposed	14 / 95 (14.74%)	13 / 96 (13.54%)	27 / 191 (14.14%)
occurrences (all)	35	31	66
Constipation			
subjects affected / exposed	12 / 95 (12.63%)	15 / 96 (15.63%)	27 / 191 (14.14%)
occurrences (all)	16	22	38
Vomiting			
subjects affected / exposed	9 / 95 (9.47%)	13 / 96 (13.54%)	22 / 191 (11.52%)
occurrences (all)	11	15	26
Abdominal pain upper			
subjects affected / exposed	8 / 95 (8.42%)	13 / 96 (13.54%)	21 / 191 (10.99%)
occurrences (all)	11	18	29
Nausea			
subjects affected / exposed	5 / 95 (5.26%)	16 / 96 (16.67%)	21 / 191 (10.99%)
occurrences (all)	8	24	32
Abdominal distension			
subjects affected / exposed	5 / 95 (5.26%)	4 / 96 (4.17%)	9 / 191 (4.71%)
occurrences (all)	5	4	9
Respiratory, thoracic and mediastinal disorders			
Cystic fibrosis lung			
subjects affected / exposed	66 / 95 (69.47%)	69 / 96 (71.88%)	135 / 191 (70.68%)
occurrences (all)	186	194	380
Cough			
subjects affected / exposed	29 / 95 (30.53%)	28 / 96 (29.17%)	57 / 191 (29.84%)
occurrences (all)	45	68	113
Haemoptysis			
subjects affected / exposed	13 / 95 (13.68%)	18 / 96 (18.75%)	31 / 191 (16.23%)
occurrences (all)	19	29	48
Productive cough			

subjects affected / exposed	8 / 95 (8.42%)	11 / 96 (11.46%)	19 / 191 (9.95%)
occurrences (all)	10	16	26
Rales			
subjects affected / exposed	10 / 95 (10.53%)	9 / 96 (9.38%)	19 / 191 (9.95%)
occurrences (all)	13	9	22
Oropharyngeal pain			
subjects affected / exposed	5 / 95 (5.26%)	11 / 96 (11.46%)	16 / 191 (8.38%)
occurrences (all)	5	15	20
Nasal congestion			
subjects affected / exposed	4 / 95 (4.21%)	6 / 96 (6.25%)	10 / 191 (5.24%)
occurrences (all)	4	6	10
Nasal polyps			
subjects affected / exposed	5 / 95 (5.26%)	1 / 96 (1.04%)	6 / 191 (3.14%)
occurrences (all)	5	1	6
Respiratory tract congestion			
subjects affected / exposed	0 / 95 (0.00%)	6 / 96 (6.25%)	6 / 191 (3.14%)
occurrences (all)	0	7	7
Rhinitis allergic			
subjects affected / exposed	0 / 95 (0.00%)	5 / 96 (5.21%)	5 / 191 (2.62%)
occurrences (all)	0	7	7
Rhinorrhoea			
subjects affected / exposed	0 / 95 (0.00%)	5 / 96 (5.21%)	5 / 191 (2.62%)
occurrences (all)	0	5	5
Wheezing			
subjects affected / exposed	0 / 95 (0.00%)	5 / 96 (5.21%)	5 / 191 (2.62%)
occurrences (all)	0	5	5
Skin and subcutaneous tissue disorders			
Rash			
subjects affected / exposed	3 / 95 (3.16%)	8 / 96 (8.33%)	11 / 191 (5.76%)
occurrences (all)	3	8	11
Pruritus			
subjects affected / exposed	3 / 95 (3.16%)	7 / 96 (7.29%)	10 / 191 (5.24%)
occurrences (all)	3	8	11
Psychiatric disorders			
Insomnia			

subjects affected / exposed	1 / 95 (1.05%)	6 / 96 (6.25%)	7 / 191 (3.66%)
occurrences (all)	1	7	8
Anxiety			
subjects affected / exposed	1 / 95 (1.05%)	5 / 96 (5.21%)	6 / 191 (3.14%)
occurrences (all)	1	6	7
Renal and urinary disorders			
Hypercreatininaemia			
subjects affected / exposed	7 / 95 (7.37%)	9 / 96 (9.38%)	16 / 191 (8.38%)
occurrences (all)	9	14	23
Dysuria			
subjects affected / exposed	4 / 95 (4.21%)	9 / 96 (9.38%)	13 / 191 (6.81%)
occurrences (all)	4	10	14
Musculoskeletal and connective tissue disorders			
Back pain			
subjects affected / exposed	5 / 95 (5.26%)	10 / 96 (10.42%)	15 / 191 (7.85%)
occurrences (all)	6	17	23
Arthralgia			
subjects affected / exposed	6 / 95 (6.32%)	8 / 96 (8.33%)	14 / 191 (7.33%)
occurrences (all)	13	10	23
Infections and infestations			
Viral upper respiratory tract infection			
subjects affected / exposed	26 / 95 (27.37%)	32 / 96 (33.33%)	58 / 191 (30.37%)
occurrences (all)	39	66	105
Rhinitis			
subjects affected / exposed	13 / 95 (13.68%)	15 / 96 (15.63%)	28 / 191 (14.66%)
occurrences (all)	16	19	35
Nasopharyngitis			
subjects affected / exposed	13 / 95 (13.68%)	14 / 96 (14.58%)	27 / 191 (14.14%)
occurrences (all)	21	21	42
Sinusitis			
subjects affected / exposed	11 / 95 (11.58%)	13 / 96 (13.54%)	24 / 191 (12.57%)
occurrences (all)	18	20	38
Respiratory tract infection bacterial			
subjects affected / exposed	9 / 95 (9.47%)	10 / 96 (10.42%)	19 / 191 (9.95%)
occurrences (all)	24	18	42
Lung infection pseudomonal			

subjects affected / exposed	11 / 95 (11.58%)	7 / 96 (7.29%)	18 / 191 (9.42%)
occurrences (all)	14	9	23
Pharyngitis			
subjects affected / exposed	6 / 95 (6.32%)	10 / 96 (10.42%)	16 / 191 (8.38%)
occurrences (all)	8	10	18
Bronchopulmonary aspergillosis allergic			
subjects affected / exposed	6 / 95 (6.32%)	6 / 96 (6.25%)	12 / 191 (6.28%)
occurrences (all)	6	8	14
Bronchitis			
subjects affected / exposed	6 / 95 (6.32%)	5 / 96 (5.21%)	11 / 191 (5.76%)
occurrences (all)	7	6	13
Bronchopulmonary aspergillosis			
subjects affected / exposed	6 / 95 (6.32%)	5 / 96 (5.21%)	11 / 191 (5.76%)
occurrences (all)	11	7	18
Respiratory tract infection fungal			
subjects affected / exposed	6 / 95 (6.32%)	3 / 96 (3.13%)	9 / 191 (4.71%)
occurrences (all)	6	4	10
Upper respiratory tract infection			
subjects affected / exposed	3 / 95 (3.16%)	6 / 96 (6.25%)	9 / 191 (4.71%)
occurrences (all)	7	9	16
Oral fungal infection			
subjects affected / exposed	2 / 95 (2.11%)	5 / 96 (5.21%)	7 / 191 (3.66%)
occurrences (all)	2	5	7
Metabolism and nutrition disorders			
Abnormal loss of weight			
subjects affected / exposed	2 / 95 (2.11%)	9 / 96 (9.38%)	11 / 191 (5.76%)
occurrences (all)	2	9	11
Hypokalaemia			
subjects affected / exposed	0 / 95 (0.00%)	5 / 96 (5.21%)	5 / 191 (2.62%)
occurrences (all)	0	5	5

More information

Substantial protocol amendments (globally)

Were there any global substantial amendments to the protocol? Yes

Date	Amendment
07 February 2011	This amendment introduced the following changes: * Increased the length of the study from 48 weeks to 96 weeks and added additional clinic visits and assessments as a result of the longer study duration. * Corrected the definition for a ≥Grade 2 elevation in serum creatinine to correctly reflect the Common Terminology Criteria for Adverse Events definition of a Grade 2 serum creatinine elevation (from ≥1.5*ULN for age to >1.5*ULN for age). * Revised the text to allow more flexibility in the transition from Study 009 to Study 009e. * Provided more detail regarding the collection of pharmacokinetic samples.
06 March 2013	This amendment introduced the following changes: * Removed TEPD, sweat chloride, and CT scans as secondary study endpoints. * Added a summary of TEPD, sweat chloride, and CT scan results from Study 009 to provide the rationale for removal of these parameters as secondary study endpoints. * Revised information on renal abnormalities to reflect the final data from Study 009. * Clarified that study drug must be interrupted if intravenous aminoglycosides or other nephrotoxic antibiotics (for example, vancomycin) were administered and clarified that appropriate laboratory procedures for monitoring therapy for CF pulmonary exacerbations or other CF complications pertained to the administration of non-nephrotoxic systemic antibiotics. * Clarified the assessments that should be performed for participants who prematurely discontinued from the study (that is, before Week 96) and whose last dose of ataluren was taken >4 weeks before discontinuation. * Changed the name of the vendor name for safety reporting from Kendle International to INC Research. * Clarified that nephrolithiasis should be reported as an AE of special interest and that laboratory abnormalities as a result of analysis by the central laboratory did not need to be reported to the INC Research Safety and Pharmacovigilance Unit. * Added an acceptable window (±30 days) for the collection of long-term safety data. * Revised the total amount of blood that would be drawn over the 96-week study from 181.5 mL to 202.5 mL to correct an administrative error.

Notes:

Interruptions (globally)

Were there any global interruptions to the trial? No

Limitations and caveats

None reported