



## Clinical trial results:

### A Double-Blind, Randomised, Placebo-controlled, Parallel Group, International, Multi-centre Phase 2 Trial Investigating the Safety and Efficacy of CRD007 in Adult Subjects with Asthma

#### Summary

EudraCT number	2015-002656-26
Trial protocol	DK GB BG
Global end of trial date	17 February 2017

#### Results information

Result version number	v1 (current)
This version publication date	08 July 2017
First version publication date	08 July 2017

#### Trial information

##### Trial identification

Sponsor protocol code	RSPR-008
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##### Additional study identifiers

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

Notes:

#### Sponsors

Sponsor organisation name	RSPR Pharma AB
Sponsor organisation address	Kornhamnstorg 53, Stockholm, Sweden, SE-111 27
Public contact	Carl-Johan Dalsgaard, Chief Executive Officer, RSPR Pharma AB, 46 709759863, carl-johan.dalsgaard@ofco.se
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Notes:

#### Paediatric regulatory details

Is trial part of an agreed paediatric investigation plan (PIP)	No
Does article 45 of REGULATION (EC) No 1901/2006 apply to this trial?	No
Does article 46 of REGULATION (EC) No 1901/2006 apply to this trial?	No

Notes:

## Results analysis stage

Analysis stage	Final
Date of interim/final analysis	11 May 2017
Is this the analysis of the primary completion data?	Yes
Primary completion date	17 February 2017
Global end of trial reached?	Yes
Global end of trial date	17 February 2017
Was the trial ended prematurely?	No

Notes:

## General information about the trial

Main objective of the trial:

To investigate the efficacy of 200 mg CRD007 administered orally b.i.d. on asthma control during tapering of a background therapy of standard asthma controller medication (ICS and LABA).

Protection of trial subjects:

Before this trial was implemented, the protocol, the subject information and subject consent form, and other documents as required, were reviewed by properly constituted Independent Ethics Committees (IECs) and by the national regulatory authorities

Background therapy: -

Evidence for comparator: -

Actual start date of recruitment	02 November 2015
Long term follow-up planned	No
Independent data monitoring committee (IDMC) involvement?	No

Notes:

## Population of trial subjects

### Subjects enrolled per country

Country: Number of subjects enrolled	Poland: 36
Country: Number of subjects enrolled	United Kingdom: 29
Country: Number of subjects enrolled	Bulgaria: 78
Country: Number of subjects enrolled	Denmark: 25
Worldwide total number of subjects	168
EEA total number of subjects	168

Notes:

### Subjects enrolled per age group

In utero	0
Preterm newborn - gestational age < 37 wk	0
Newborns (0-27 days)	0
Infants and toddlers (28 days-23 months)	0
Children (2-11 years)	0
Adolescents (12-17 years)	0
Adults (18-64 years)	168
From 65 to 84 years	0

85 years and over	0
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## Subject disposition

### Recruitment

Recruitment details:

Following a run-in period (screening) and initiation of background therapy, patients were randomised to either active treatment or placebo.

### Pre-assignment

Screening details:

Patients were screened over a period of 4 weeks

### Period 1

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

### Arms

Are arms mutually exclusive?	Yes
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<b>Arm title</b>	CRD007
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Arm description:

Active

Arm type	Active comparator
Investigational medicinal product name	CRD007
Investigational medicinal product code	
Other name	Pemirolast
Pharmaceutical forms	Tablet
Routes of administration	Oral use

Dosage and administration details:

200mg CRD007 bid

<b>Arm title</b>	Placebo
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Arm description: -

Arm type	Placebo
Investigational medicinal product name	Placebo
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Tablet
Routes of administration	Oral use

Dosage and administration details:

Two tablets bid

Number of subjects in period 1	CRD007	Placebo
Started	90	78
Completed	90	78



## Baseline characteristics

### Reporting groups

Reporting group title	CRD007
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Reporting group description:
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Active
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Reporting group title	Placebo
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Reporting group description: -
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Reporting group values	CRD007	Placebo	Total
Number of subjects	90	78	168
Age categorical			
Units: Subjects			
In utero	0	0	0
Preterm newborn infants (gestational age < 37 wks)	0	0	0
Newborns (0-27 days)	0	0	0
Infants and toddlers (28 days-23 months)	0	0	0
Children (2-11 years)	0	0	0
Adolescents (12-17 years)	0	0	0
Adults (18-64 years)	90	78	168
From 65-84 years	0	0	0
85 years and over	0	0	0
Gender categorical			
Units: Subjects			
Female	61	48	109
Male	29	30	59

## End points

### End points reporting groups

Reporting group title	CRD007
Reporting group description:	
Active	
Reporting group title	Placebo
Reporting group description: -	

### Primary: ICS dose

End point title	ICS dose
End point description:	
End point type	Primary
End point timeframe:	
Week 4 to 14	

End point values	CRD007	Placebo		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	90	78		
Units: mg daily dose	735	731		

### Statistical analyses

Statistical analysis title	Primary analysis
Comparison groups	Placebo v CRD007
Number of subjects included in analysis	168
Analysis specification	Pre-specified
Analysis type	equivalence
P-value	< 0.05
Method	ANCOVA
Parameter estimate	Mean difference (final values)
Confidence interval	
level	95 %
sides	2-sided
lower limit	0.05
upper limit	0.95
Variability estimate	Standard deviation

## Adverse events

### Adverse events information

Timeframe for reporting adverse events:

AEs were reported date of informed consent until end of trial

Adverse event reporting additional description:

NA

Assessment type	Systematic
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### Dictionary used

Dictionary name	MedDRA
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Dictionary version	18.1
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### Reporting groups

Reporting group title	CRD007
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Reporting group description:

Active treatment

Reporting group title	Placebo
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Reporting group description:

Placebo

Serious adverse events	CRD007	Placebo	
Total subjects affected by serious adverse events			
subjects affected / exposed	2 / 90 (2.22%)	3 / 78 (3.85%)	
number of deaths (all causes)	0	0	
number of deaths resulting from adverse events	0	0	
Cardiac disorders			
Stroke			
subjects affected / exposed	0 / 90 (0.00%)	1 / 78 (1.28%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Angina pectoris			
subjects affected / exposed	0 / 90 (0.00%)	1 / 78 (1.28%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Nervous system disorders			
Loss of consciousness			
subjects affected / exposed	1 / 90 (1.11%)	0 / 78 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Cerebral ischaemia			



subjects affected / exposed	1 / 90 (1.11%)	0 / 78 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
<b>Gastrointestinal disorders</b>			
Exacerbation of diverticular disease			
subjects affected / exposed	0 / 90 (0.00%)	1 / 78 (1.28%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
<b>Musculoskeletal and connective tissue disorders</b>			
Arthritis			
subjects affected / exposed	0 / 90 (0.00%)	1 / 78 (1.28%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	

Frequency threshold for reporting non-serious adverse events: 0 %

<b>Non-serious adverse events</b>	CRD007	Placebo	
Total subjects affected by non-serious adverse events			
subjects affected / exposed	52 / 90 (57.78%)	42 / 78 (53.85%)	
<b>Investigations</b>			
Blood creatine increased			
subjects affected / exposed	2 / 90 (2.22%)	0 / 78 (0.00%)	
occurrences (all)	2	0	
<b>Injury, poisoning and procedural complications</b>			
Arthropod bite			
subjects affected / exposed	0 / 90 (0.00%)	2 / 78 (2.56%)	
occurrences (all)	0	2	
<b>Vascular disorders</b>			
Hypertension			
subjects affected / exposed	3 / 90 (3.33%)	1 / 78 (1.28%)	
occurrences (all)	3	1	
<b>Nervous system disorders</b>			
Headache			
subjects affected / exposed	3 / 90 (3.33%)	6 / 78 (7.69%)	
occurrences (all)	4	6	
Dizziness			

subjects affected / exposed occurrences (all)	3 / 90 (3.33%) 3	1 / 78 (1.28%) 1	
Sciatica subjects affected / exposed occurrences (all)	2 / 90 (2.22%) 2	0 / 78 (0.00%) 0	
General disorders and administration site conditions Fatigue subjects affected / exposed occurrences (all)	2 / 90 (2.22%) 2	0 / 78 (0.00%) 0	
Influenza like illness subjects affected / exposed occurrences (all)	2 / 90 (2.22%) 3	0 / 78 (0.00%) 0	
Immune system disorders Seasonal allergy subjects affected / exposed occurrences (all)	0 / 90 (0.00%) 0	2 / 78 (2.56%) 2	
Gastrointestinal disorders Nausea subjects affected / exposed occurrences (all)	3 / 90 (3.33%) 3	1 / 78 (1.28%) 1	
Diarrhoea subjects affected / exposed occurrences (all)	2 / 90 (2.22%) 2	1 / 78 (1.28%) 1	
Respiratory, thoracic and mediastinal disorders Asthma subjects affected / exposed occurrences (all)	4 / 90 (4.44%) 4	7 / 78 (8.97%) 7	
Cough subjects affected / exposed occurrences (all)	4 / 90 (4.44%) 4	1 / 78 (1.28%) 2	
Dysphonia subjects affected / exposed occurrences (all)	3 / 90 (3.33%) 5	0 / 78 (0.00%) 0	
Rhinitis allergic subjects affected / exposed occurrences (all)	1 / 90 (1.11%) 1	2 / 78 (2.56%) 2	

Dyspnoea subjects affected / exposed occurrences (all)	2 / 90 (2.22%) 2	0 / 78 (0.00%) 0	
Musculoskeletal and connective tissue disorders Muscle spasms subjects affected / exposed occurrences (all)	0 / 90 (0.00%) 0	2 / 78 (2.56%) 3	
Infections and infestations Nasopharyngitis subjects affected / exposed occurrences (all)  Rhinitis subjects affected / exposed occurrences (all)  Upper respiratory tract infection subjects affected / exposed occurrences (all)  Lower respiratory tract infection subjects affected / exposed occurrences (all)  Cystitis subjects affected / exposed occurrences (all)  Influenza subjects affected / exposed occurrences (all)	7 / 90 (7.78%) 10  3 / 90 (3.33%) 3  5 / 90 (5.56%) 5  1 / 90 (1.11%) 2  1 / 90 (1.11%) 1  2 / 90 (2.22%) 2	9 / 78 (11.54%) 11  4 / 78 (5.13%) 4  1 / 78 (1.28%) 1  3 / 78 (3.85%) 3  2 / 78 (2.56%) 2  1 / 78 (1.28%) 1	

## More information

### Substantial protocol amendments (globally)

Were there any global substantial amendments to the protocol? Yes

Date	Amendment
26 October 2015	To broaden the targeted patient population the requirement for patients having been on a specific LABA dose of $\geq 9 \mu\text{g}$ and $\leq 18 \mu\text{g}$ formoterol or $100 \mu\text{g}$ salmeterol prior to Visit 1 is removed. Instead, it is specified that patients must be treated with a daily stable LABA dose 12 weeks prior to Visit 1 in order to be eligible. In addition, the calculations for FEV1, FVC and reversibility in FEV1 are clarified
24 February 2016	To better reflect the target population, the following criteria are changed: Inclusion Criterion 6 Inclusion Criterion 8 and Randomisation Criterion 2 exclusion Criterion 5 To facilitate trial logistics, Visit 1 assessments are allowed to be conducted over a window of 3 days. To be aligned with standard practice at some of the participating sites, reversibility testing at Visit 1, Visit 2 and Visit 3 may be performed using Salbutamol Dry Powder Inhaler 200-800 $\mu\text{g}$ (changed from 200-400 $\mu\text{g}$ ) or 400 $\mu\text{g}$ Salbutamol via pressurised metered dose inhaler with or without spacer. To allow adequate time for trial completion, time-lines for last subject randomised and last subject Last Visit have been extended with 1 quarter. The number of trial subjects will be reduced from the present 200 (100 in each arm) to 160 (80 in each arm). The effect of the change in the sample size will be an increase in the detectable difference between treatment arms from 80 $\mu\text{g}$ to 89 $\mu\text{g}$ for the average daily budesonide dose, and from 20% to 22% for treatment failures. These effects on the detectable difference in the study are considered acceptable. Lastly, minor typographical errors are corrected

Notes:

### Interruptions (globally)

Were there any global interruptions to the trial? No

### Limitations and caveats

None reported