



## Clinical trial results:

**A Phase IIb, Open Label, Single Arm, Multicenter Study to Evaluate the Effect of 48-weeks Peginterferon alfa-2a (PEG-IFN) Administration on Serum HBsAg in Chronic Hepatitis B, HBeAg-Negative, Genotype D Patients on Treatment with Nucleos(t)ide Analogues (NAs), Showing Stable HBV DNA Suppression.**

### Summary

EudraCT number	2012-000080-25
Trial protocol	IT
Global end of trial date	28 October 2015

### Results information

Result version number	v2 (current)
This version publication date	22 October 2016
First version publication date	10 July 2016
Version creation reason	• Correction of full data set Correction of the data.

### Trial information

#### Trial identification

Sponsor protocol code	ML28262
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#### Additional study identifiers

ISRCTN number	-
ClinicalTrials.gov id (NCT number)	NCT01706575
WHO universal trial number (UTN)	-

Notes:

### Sponsors

Sponsor organisation name	F. Hoffmann-La Roche AG
Sponsor organisation address	Grenzacherstrasse 124, Basel, Switzerland, CH-4070
Public contact	F. Hoffmann-La Roche AG, F. Hoffmann-La Roche AG, +41 616878333, global.trial_information@roche.com
Scientific contact	F. Hoffmann-La Roche AG, F. Hoffmann-La Roche AG, +41 616878333, global.trial_information@roche.com

Notes:

### Paediatric regulatory details

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

Notes:

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**Results analysis stage**

Analysis stage	Final
Date of interim/final analysis	28 October 2015
Is this the analysis of the primary completion data?	Yes
Primary completion date	30 September 2013
Global end of trial reached?	Yes
Global end of trial date	28 October 2015
Was the trial ended prematurely?	No

Notes:

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**General information about the trial**

Main objective of the trial:

To evaluate the decline in serum Hepatitis B surface Antigen (HBsAg) at the end of combination treatment with Pegylated Interferon (Peginterferon) Alfa-2a (PEG-IFN) and nucleos(t)ide analogues (NA) (Study Week 48).

Protection of trial subjects:

All study subjects were required to read and sign an informed consent form.

Background therapy:

Subjects continued to nucleos(t)ide analogues (NA) therapy along with the study medication.

Evidence for comparator: -

Actual start date of recruitment	24 January 2013
Long term follow-up planned	Yes
Long term follow-up rationale	Safety, Efficacy
Long term follow-up duration	11 Months
Independent data monitoring committee (IDMC) involvement?	No

Notes:

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**Population of trial subjects****Subjects enrolled per country**

Country: Number of subjects enrolled	Italy: 76
Worldwide total number of subjects	76
EEA total number of subjects	76

Notes:

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**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)	76
From 65 to 84 years	0

85 years and over	0
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## Subject disposition

### Recruitment

Recruitment details: -

### Pre-assignment

Screening details:

A total of 76 subjects started the study and were included in lead-in period. Out of 76 subjects, 70 received study drug. Data is reported here for the interim analysis (up to 48 weeks).

### Period 1

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

### Arms

Arm title	Pegylated Interferon (Peginterferon) Alfa-2a
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Arm description:

Subjects receiving nucleos(t)ide analogues (NA) therapy with Hepatitis B surface Antigen (HBsAg) decline less than ( $<$ ) 0.5 log 10 international unit/milliliter (IU/ml) at baseline received peginterferon alfa-2a 180 microgram (mcg), subcutaneously (SC) once weekly for 48 weeks along with their NA therapy.

Arm type	Experimental
Investigational medicinal product name	Pegylated Interferon (Peginterferon) Alfa-2a
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Solution for injection
Routes of administration	Subcutaneous use

Dosage and administration details:

Peginterferon alfa-2a 180 mcg, subcutaneously (SC) once weekly for 48 weeks.

<b>Number of subjects in period 1</b>	Pegylated Interferon (Peginterferon) Alfa-2a
Started	76
Treated	70
Completed	64
Not completed	12
Started but not Treated	6
Subject Withdrew Consent	4
Lost to follow-up	2

## Baseline characteristics

### Reporting groups

Reporting group title	Pegylated Interferon (Peginterferon) Alfa-2a
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Reporting group description:

Subjects receiving nucleos(t)ide analogues (NA) therapy with Hepatitis B surface Antigen (HBsAg) decline less than (<) 0.5 log 10 international unit/milliliter (IU/ml) at baseline received peginterferon alfa-2a 180 microgram (mcg), subcutaneously (SC) once weekly for 48 weeks along with their NA therapy.

Reporting group values	Pegylated Interferon (Peginterferon) Alfa-2a	Total	
Number of subjects	76	76	
Age categorical Units: Subjects			
Age continuous Units: years arithmetic mean standard deviation	49.82 ± 8.46	-	
Gender categorical Units: Subjects			
Female	13	13	
Male	63	63	

## End points

### End points reporting groups

Reporting group title	Pegylated Interferon (Peginterferon) Alfa-2a
Reporting group description: Subjects receiving nucleos(t)ide analogues (NA) therapy with Hepatitis B surface Antigen (HBsAg) decline less than (<) 0.5 log 10 international unit/milliliter (IU/ml) at baseline received peginterferon alfa-2a 180 microgram (mcg), subcutaneously (SC) once weekly for 48 weeks along with their NA therapy.	

### Primary: Efficacy: Percent Change From Baseline in Serum Hepatitis B Surface Antigen (HBsAg) Titer at End of the Combination Treatment (Week 48)

End point title	Efficacy: Percent Change From Baseline in Serum Hepatitis B Surface Antigen (HBsAg) Titer at End of the Combination Treatment (Week 48) <sup>[1]</sup>
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End point description:

Per-Protocol Population (PP) included all subjects without severe protocol violations, including major inclusion or exclusion criteria violations.

End point type	Primary
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End point timeframe:

Baseline up to Week 48

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: The statistical analysis was not planned to be reported for this endpoint.

End point values	Pegylated Interferon (Peginterferon) Alfa-2a			
Subject group type	Reporting group			
Number of subjects analysed	43			
Units: percent change				
arithmetic mean (standard deviation)	59.13 (± 32.14)			

### Statistical analyses

No statistical analyses for this end point

### Primary: Efficacy: Percentage of Subjects With Serum Hepatitis B Surface Antigen (HBsAg) Decrease $\geq$ 50% From Baseline at End of the Combination Treatment (Week 48)

End point title	Efficacy: Percentage of Subjects With Serum Hepatitis B Surface Antigen (HBsAg) Decrease $\geq$ 50% From Baseline at End of the Combination Treatment (Week 48) <sup>[2]</sup>
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End point description:

Subjects who stopped pegylated interferon (PEG-IFN) treatment during the add-on phase due to serum HBsAg loss and HBsAg seroconversion were considered as responders. PP included all subjects without severe protocol violations, including major inclusion or exclusion criteria violations and who were undergoing the Week 48 visit.

End point type	Primary
End point timeframe:	
Baseline and Week 48	
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: The statistical analysis was not planned to be reported for this endpoint.	

<b>End point values</b>	Pegylated Interferon (Peginterferon) Alfa-2a			
Subject group type	Reporting group			
Number of subjects analysed	43			
Units: percentage of subjects				
number (not applicable)	67.44			

## Statistical analyses

No statistical analyses for this end point

## Secondary: Efficacy: Change From Baseline in Serum Hepatitis B Surface Antigen (HBsAg) Titer at Week 24, 72 and 96

End point title	Efficacy: Change From Baseline in Serum Hepatitis B Surface Antigen (HBsAg) Titer at Week 24, 72 and 96
End point description:	Change is calculated by HBsAg titer at baseline - HBsAg titer at week of assessments. PP included all subjects without severe protocol violations, including major inclusion or exclusion criteria violations. Here, number of subjects analyzed signifies those subjects who were evaluable for the outcome measure and n signifies the number of subjects who were evaluated at specified time points.
End point type	Secondary
End point timeframe:	
Baseline, Week 24, 72 and 96	

<b>End point values</b>	Pegylated Interferon (Peginterferon) Alfa-2a			
Subject group type	Reporting group			
Number of subjects analysed	56			
Units: international units per millilitre				
arithmetic mean (standard deviation)				
Baseline (n= 56)	0 (± 0)			
Change at Week 24 (n= 56)	-546.32 (± 1215.2)			
Change at Week 72 (n= 55)	-815.69 (± 1394.89)			
Change at Week 96 (n= 55)	-728.16 (± 1418.6)			

## Statistical analyses

No statistical analyses for this end point

### Secondary: Efficacy: Percentage of Subjects With HBsAg Decrease $\geq 1$ log<sub>10</sub> IU/ml From Baseline to Week 48

End point title	Efficacy: Percentage of Subjects With HBsAg Decrease $\geq 1$ log <sub>10</sub> IU/ml From Baseline to Week 48
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End point description:

PP included all subjects without severe protocol violations, including major inclusion or exclusion criteria violations and who were undergoing the Week 48 visit.

End point type	Secondary
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End point timeframe:

Baseline, Week 48

End point values	Pegylated Interferon (Peginterferon) Alfa-2a			
Subject group type	Reporting group			
Number of subjects analysed	43			
Units: percentage of subjects				
number (not applicable)	13.95			

## Statistical analyses

No statistical analyses for this end point

### Secondary: Efficacy: Number of Subjects With Serum HBsAg Loss at Week 12 That Persisted up to Week 96

End point title	Efficacy: Number of Subjects With Serum HBsAg Loss at Week 12 That Persisted up to Week 96
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End point description:

HBsAg loss is defined as HBsAg less than or equal to ( $\leq$ ) 0.05 IU/ml. PP included all subjects without severe protocol violations, including major inclusion or exclusion criteria violations.

End point type	Secondary
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End point timeframe:

Week 12 up to Week 96



<b>End point values</b>	Pegylated Interferon (Peginterferon) Alfa-2a			
Subject group type	Reporting group			
Number of subjects analysed	56			
Units: subjects				
number (not applicable)	1			

### Statistical analyses

No statistical analyses for this end point

### Secondary: Efficacy: HBsAg Levels According to Interleukin 28B (IL28B) Genotypes

End point title	Efficacy: HBsAg Levels According to Interleukin 28B (IL28B) Genotypes
End point description:	
End point type	Secondary
End point timeframe:	
Baseline and Week 48	

<b>End point values</b>	Pegylated Interferon (Peginterferon) Alfa-2a			
Subject group type	Reporting group			
Number of subjects analysed	0 <sup>[3]</sup>			
Units: international unit/millilitre (IU/mL)				
number (not applicable)				

Notes:

[3] - Analysis was not performed for this endpoint.

### Statistical analyses

No statistical analyses for this end point

### Secondary: Efficacy: HBsAg Levels According to Interferon-Inducible Protein 10 (IP-10) Serum Levels

End point title	Efficacy: HBsAg Levels According to Interferon-Inducible Protein 10 (IP-10) Serum Levels
End point description:	
End point type	Secondary
End point timeframe:	
Baseline and Week 48	

End point values	Pegylated Interferon (Peginterferon) Alfa-2a			
Subject group type	Reporting group			
Number of subjects analysed	0 <sup>[4]</sup>			
Units: IU/mL				
number (not applicable)				

Notes:

[4] - Analysis was not performed for this endpoint.

## Statistical analyses

No statistical analyses for this end point

## Secondary: Safety: Percentage of Subjects With Adverse Events (AE)

End point title	Safety: Percentage of Subjects With Adverse Events (AE)
End point description:	
An AE is defined as any unfavorable and unintended sign (including an abnormal laboratory finding), symptom, or disease temporally associated with the use of a medicinal product, whether or not considered related to the medicinal product. Safety population included all subjects who received least one dose of the study drug and had at least one post-dose safety assessment.	
End point type	Secondary
End point timeframe:	
Baseline up to Week 48	

End point values	Pegylated Interferon (Peginterferon) Alfa-2a			
Subject group type	Reporting group			
Number of subjects analysed	69			
Units: percentage of subjects				
number (not applicable)	92.75			

## Statistical analyses

No statistical analyses for this end point

## Adverse events

### Adverse events information

Timeframe for reporting adverse events:

Baseline up to Week 48

Adverse event reporting additional description:

Safety population included all subjects who received least one dose of the study drug and had at least one post-dose safety assessment.

Assessment type	Systematic
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### Dictionary used

Dictionary name	MedDRA
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Dictionary version	17.1
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### Reporting groups

Reporting group title	Pegylated Interferon (Peginterferon) Alfa-2a
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Reporting group description:

Subjects receiving nucleos(t)ide analogues (NA) therapy with Hepatitis B surface Antigen (HBsAg) decline less than  $<0.5 \log_{10}$  international unit/milliliter (IU/ml) at baseline received peginterferon alfa-2a 180 microgram (mcg), subcutaneously (SC) once weekly for 48 weeks along with their NA therapy.

Serious adverse events	Pegylated Interferon (Peginterferon) Alfa-2a		
Total subjects affected by serious adverse events			
subjects affected / exposed	5 / 69 (7.25%)		
number of deaths (all causes)	0		
number of deaths resulting from adverse events	0		
Neoplasms benign, malignant and unspecified (incl cysts and polyps)			
Squamous cell carcinoma of skin			
subjects affected / exposed	1 / 69 (1.45%)		
occurrences causally related to treatment / all	0 / 1		
deaths causally related to treatment / all	0 / 0		
Injury, poisoning and procedural complications			
Rib fracture			
subjects affected / exposed	1 / 69 (1.45%)		
occurrences causally related to treatment / all	0 / 1		
deaths causally related to treatment / all	0 / 0		
General disorders and administration site conditions			
Pyrexia			

subjects affected / exposed	1 / 69 (1.45%)		
occurrences causally related to treatment / all	1 / 1		
deaths causally related to treatment / all	0 / 0		
Respiratory, thoracic and mediastinal disorders			
Haemoptysis			
subjects affected / exposed	1 / 69 (1.45%)		
occurrences causally related to treatment / all	1 / 1		
deaths causally related to treatment / all	0 / 0		
Endocrine disorders			
Papillary thyroid cancer			
subjects affected / exposed	1 / 69 (1.45%)		
occurrences causally related to treatment / all	0 / 1		
deaths causally related to treatment / all	0 / 0		
Musculoskeletal and connective tissue disorders			
Intervertebral disc protrusion			
subjects affected / exposed	1 / 69 (1.45%)		
occurrences causally related to treatment / all	0 / 1		
deaths causally related to treatment / all	0 / 0		

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

<b>Non-serious adverse events</b>	Pegylated Interferon (Peginterferon) Alfa-2a		
Total subjects affected by non-serious adverse events			
subjects affected / exposed	56 / 69 (81.16%)		
Nervous system disorders			
Headache			
subjects affected / exposed	19 / 69 (27.54%)		
occurrences (all)	41		
Blood and lymphatic system disorders			
Thrombocytopenia			
subjects affected / exposed	8 / 69 (11.59%)		
occurrences (all)	9		
General disorders and administration site conditions			

<p>Asthenia</p> <p>subjects affected / exposed</p> <p>occurrences (all)</p>	<p>27 / 69 (39.13%)</p> <p>39</p>		
<p>Pyrexia</p> <p>subjects affected / exposed</p> <p>occurrences (all)</p>	<p>18 / 69 (26.09%)</p> <p>25</p>		
<p>Fatigue</p> <p>subjects affected / exposed</p> <p>occurrences (all)</p>	<p>4 / 69 (5.80%)</p> <p>4</p>		
<p>Gastrointestinal disorders</p> <p>Diarrhoea</p> <p>subjects affected / exposed</p> <p>occurrences (all)</p>	<p>5 / 69 (7.25%)</p> <p>6</p>		
<p>Respiratory, thoracic and mediastinal disorders</p> <p>Cough</p> <p>subjects affected / exposed</p> <p>occurrences (all)</p>	<p>5 / 69 (7.25%)</p> <p>5</p>		
<p>Skin and subcutaneous tissue disorders</p> <p>Pruritus</p> <p>subjects affected / exposed</p> <p>occurrences (all)</p>	<p>4 / 69 (5.80%)</p> <p>4</p>		
<p>Psychiatric disorders</p> <p>Irritability</p> <p>subjects affected / exposed</p> <p>occurrences (all)</p> <p>Insomnia</p> <p>subjects affected / exposed</p> <p>occurrences (all)</p>	<p>6 / 69 (8.70%)</p> <p>6</p> <p>7 / 69 (10.14%)</p> <p>8</p>		
<p>Musculoskeletal and connective tissue disorders</p> <p>Arthralgia</p> <p>subjects affected / exposed</p> <p>occurrences (all)</p> <p>Back pain</p> <p>subjects affected / exposed</p> <p>occurrences (all)</p> <p>Musculoskeletal pain</p>	<p>6 / 69 (8.70%)</p> <p>6</p> <p>6 / 69 (8.70%)</p> <p>7</p>		

subjects affected / exposed	11 / 69 (15.94%)		
occurrences (all)	15		
Myalgia			
subjects affected / exposed	15 / 69 (21.74%)		
occurrences (all)	20		
Metabolism and nutrition disorders			
Decreased appetite			
subjects affected / exposed	6 / 69 (8.70%)		
occurrences (all)	6		

## More information

### Substantial protocol amendments (globally)

Were there any global substantial amendments to the protocol? Yes

Date	Amendment
29 May 2014	<ol style="list-style-type: none"><li>1. Amendment was released to recalculate the sample size.</li><li>2. This descriptive analysis of the reduction of HBsAg at week 48 was also introduced with the amendment.</li><li>3. The amendment also states that subjects with HBsAg loss and seroconversion according to 2012 European Association for the Study of the Liver (EASL) Hepatitis B Virus (HBV) Guidelines during the add-on period would stop both PEG-INF and NA treatments, enter the follow-up period and be considered as responders.</li></ol>

Notes:

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### Interruptions (globally)

Were there any global interruptions to the trial? No

### Limitations and caveats

None reported