



EUROPEAN MEDICINES AGENCY  
SCIENCE MEDICINES HEALTH

EMA/367080/2014

## European Medicines Agency decision

P/0176/2014

of 2 July 2014

on the acceptance of a modification of an agreed paediatric investigation plan for asfotase alfa (EMA-000987-PIP01-10-M02) in accordance with Regulation (EC) No 1901/2006 of the European Parliament and of the Council

### **Disclaimer**

This Decision does not constitute entitlement to the rewards and incentives referred to in Title V of Regulation (EC) No 1901/2006.

**Only the English text is authentic.**



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The European Medicines Agency,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Regulation (EC) No 1901/2006 of the European Parliament and of the Council of 12 December 2006 on medicinal products for paediatric use and amending Regulation (EEC) No. 1768/92, Directive 2001/20/EC, Directive 2001/83/EC and Regulation (EC) No 726/2004<sup>1</sup>,

Having regard to Regulation (EC) No 726/2004 of the European Parliament and of the Council of 31 March 2004 laying down Community procedures for the authorisation and supervision of medicinal products for human and veterinary use and establishing a European Medicines Agency<sup>2</sup>,

Having regard to the European Medicines Agency's decision P/0052/2013 issued on 1 March 2013, and the decision P/0306/2013 issued on 5 December 2013,

Having regard to the application submitted by Alexion Europe SAS on 27 May 2014 under Article 22 of Regulation (EC) No 1901/2006 proposing changes to the agreed paediatric investigation plan with a deferral,

Having regard to the opinion of the Paediatric Committee of the European Medicines Agency, issued on 20 June 2014, in accordance with Article 22 of Regulation (EC) No 1901/2006,

Having regard to Article 25 of Regulation (EC) No 1901/2006,

Whereas:

- (1) The Paediatric Committee of the European Medicines Agency has given an opinion on the acceptance of changes to the agreed paediatric investigation plan.
- (2) It is therefore appropriate to adopt a decision on the acceptance of changes to the agreed paediatric investigation plan.

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<sup>1</sup> OJ L 378, 27.12.2006, p.1.

<sup>2</sup> OJ L 136, 30.4.2004, p. 1.

Has adopted this decision:

**Article 1**

Changes to the agreed paediatric investigation plan for asfotase alfa, solution for injection, subcutaneous use, are hereby accepted in the scope set out in the opinion of the Paediatric Committee of the European Medicines Agency annexed hereto, together with its appendices.

**Article 2**

This decision is addressed to Alexion Europe SAS, 25, Boulevard de l'Amiral Bruix, 75016 – Paris, France.

Done at London, 2 July 2014

For the European Medicines Agency  
Guido Rasi  
Executive Director  
(Signature on file)

EMA/PDCO/331485/2014

## Opinion of the Paediatric Committee on the acceptance of a modification of an agreed Paediatric Investigation Plan

EMA-000987-PIP01-10-M02

### Scope of the application

**Active substance(s):**

Asfotase alfa

**Condition(s):**

Treatment of hypophosphatasia

**Pharmaceutical form(s):**

Solution for injection

**Route(s) of administration:**

Subcutaneous use

**Name / corporate name of the PIP applicant:**

Alexion Europe SAS

### Basis for opinion

Pursuant to Article 22 of Regulation (EC) No 1901/2006 as amended, Alexion Europe SAS submitted to the European Medicines Agency on 27 May 2014 an application for modification of the agreed paediatric investigation plan with a deferral set out in the European Medicines Agency's decision P/0052/2013 issued on 1 March 2013, and the decision P/0306/2013 issued on 5 December 2013.

The application for modification proposed changes to the agreed paediatric investigation plan.

The procedure started on 18 June 2014.

### Scope of the modification

Some measures and a timeline of the Paediatric Investigation Plan have been modified.

## Opinion

1. The Paediatric Committee, having assessed the application in accordance with Article 22 of Regulation (EC) No 1901/2006 as amended, recommends as set out in the appended summary report:

- to agree to changes to the paediatric investigation plan in the scope set out in the Annex I of this opinion.

The Icelandic and the Norwegian Paediatric Committee members agree with the above-mentioned recommendation of the Paediatric Committee.

2. The measures and timelines of the paediatric investigation plan are set out in the Annex I.

This opinion is forwarded to the applicant and the Executive Director of the European Medicines Agency, together with its annex and appendix.

London, 20 June 2014

On behalf of the Paediatric Committee  
Dr Dirk Mentzer, Chairman  
(Signature on file)

## **Annex I**

**The subset(s) of the paediatric population and condition(s) covered by the waiver and the measures and timelines of the agreed paediatric investigation plan (PIP)**

## 1. Waiver

Not applicable.

## 2. Paediatric investigation plan

### 2.1. Condition:

Treatment of hypophosphatasia

#### 2.1.1. Indication(s) targeted by the PIP

Treatment of hypophosphatasia

#### 2.1.2. Subset(s) of the paediatric population concerned by the paediatric development

From birth to less than 18 years of age

#### 2.1.3. Pharmaceutical form(s)

Solution for injection

#### 2.1.4. Measures

| Area                    | Number of measures | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------------|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Quality-related studies | 1                  | <b>Study 1</b><br>Development of appropriate strengths solution of asfotase alfa for subcutaneous use for all subsets of the paediatric population: 40 mg/mL and 100 mg/mL.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Non-clinical studies    | 0                  | Not applicable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Clinical studies        | 10                 | <b>Study 2</b><br>Population pharmacokinetics and exposure-response modelling to quantify the population pharmacokinetics of asfotase-alfa, to quantify the relationship between asfotase-alfa exposure and plasma inorganic pyrophosphate and Pyridoxal 5' phosphate biomarkers and to integrate the pharmacokinetic model and exposure-response relationships to support dosing recommendations for asfotase-alfa in specific hypophosphatasia treatment populations.<br><br><b>Study 3</b><br>Open label, single arm, exploratory trial to evaluate the safety, tolerability, pharmacokinetics and pharmacology of asfotase alfa intravenous infusion and subcutaneous injection in children from birth |

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|--|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  | <p>to less than 4 years of age with severe hypophosphatasia (ENB-002-08).</p> <p><b>Study 4</b></p> <p>Open label, single arm, exploratory extension study of Measure 3 to evaluate the safety, tolerability, pharmacokinetics and pharmacology of asfotase alfa intravenous infusion and subcutaneous injection in children with severe hypophosphatasia (ENB-003-08).</p> <p><b>Study 5</b></p> <p>Open-label trial to evaluate safety, efficacy, survival, growth, development and pharmacokinetics of asfotase alfa subcutaneous injection in children from birth to less than 6 years of age with severe hypophosphatasia (ENB-0010-10).</p> <p><b>Study 6</b></p> <p>Retrospective, non-interventional epidemiologic study of the natural history to evaluate overall survival in patients with severe perinatal and infantile hypophosphatasia and compare outcomes to those of the interventional studies with asfotase alfa of Measure 3 / 4 and 5 (ENB-011-10).</p> <p><b>Study 7</b></p> <p>Open-label, dose-ranging, historical control study to evaluate the safety, activity, pharmacokinetics and pharmacodynamics of asfotase alfa subcutaneous injection in paediatric hypophosphatasia patients from 5 to less than 13 years and Tanner stage of 2 or less (prepubescent) with open growth plates with perinatal/infantile and childhood onset (ENB-006-09).</p> <p><b>Study 8</b></p> <p>Open-label, dose-ranging, historical control, extension study of Measure 7 to evaluate the long-term safety, activity, pharmacokinetics and pharmacodynamics of asfotase alfa subcutaneous injection in paediatric hypophosphatasia patients with perinatal/infantile and childhood onset (ENB-008-09).</p> <p><b>Study 9</b></p> <p>Randomized, open-label, dose-ranging concurrent control study to evaluate the safety, pharmacokinetics, pharmacodynamics and activity of asfotase alfa in adolescents (and adults) with perinatal/infantile and childhood onset hypophosphatasia (ENB-009-10).</p> <p><b>Study 10</b></p> <p>Double-blind, placebo-controlled, randomized, multicentre, 6-month study with an open label extension treatment period to evaluate the safety, efficacy, pharmacokinetics and pharmacodynamics of asfotase alfa in patients from 3 years of age to Tanner stage of 2 or less</p> |
|--|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|



|  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  | <p>(prepubescent) with open growth plates with childhood onset hypophosphatasia (ENB-014-12).</p> <p><b>Study 11</b></p> <p>Measure to extrapolate efficacy to children from 6 months to below 3 years of age with juvenile onset HPP. Analysis of existing in house data on paediatric patients 6 months to below 3 years of age with perinatal/infantile onset HPP and children aged 3 years and above with juvenile onset hypophosphatasia.</p> |
|--|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### 3. Follow-up, completion and deferral of PIP

|                                                                                       |                  |
|---------------------------------------------------------------------------------------|------------------|
| Concerns on potential long term safety/efficacy issues in relation to paediatric use: | Yes              |
| Date of completion of the paediatric investigation plan:                              | By December 2018 |
| Deferral for one or more measures contained in the paediatric investigation plan:     | Yes              |