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Committee for Orphan Medicinal Products

Public summary of opinion on orphan designation

Cyclic pyranopterin monophosphate for the treatment of molybdenum cofactor deficiency type A

First publication	15 October 2010
Rev.1: old sponsor's name change and transfer of sponsorship	5 June 2013
Rev.2: sponsor's change of address	12 March 2015

Disclaimer

Please note that revisions to the Public Summary of Opinion are purely administrative updates. Therefore, the scientific content of the document reflects the outcome of the Committee for Orphan Medicinal Products (COMP) at the time of designation and is not updated after first publication.

On 20 September 2010, orphan designation (EU/3/10/777) was granted by the European Commission to Orphatec Pharmaceuticals GmbH, Germany, for cyclic pyranopterin monophosphate for the treatment of molybdenum cofactor deficiency type A.

In January 2013, Orphatec Pharmaceuticals GmbH changed name to Colbourne Pharmaceuticals GmbH.

The sponsorship was transferred to Alexion Europe SAS, France, in March 2013.

What is molybdenum cofactor deficiency type A?

Molybdenum cofactor deficiency is a genetic disease caused by the lack of a substance called 'molybdenum cofactor'. This is a molecule that is needed for the production of the enzymes sulfite oxidase, xanthine dehydrogenase and aldehyde oxidase. Without these enzymes, the toxic chemical sulfite builds up in the brain.

In the 'type A' form of the disease, the absence of molybdenum cofactor is due to patients lacking a substance called 'cyclic pyranopterin monophosphate'. The body needs this substance to make molybdenum cofactor.

The symptoms of molybdenum cofactor deficiency appear from birth and include seizures (fits), intracranial haemorrhage (bleeding in the brain), increased reflex responses and feeding problems.

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Molybdenum cofactor deficiency type A is a very severe and life-threatening condition which is associated with poor overall survival, with death usually occurring within the first few months of life.

What is the estimated number of patients affected by the condition?

At the time of designation, molybdenum cofactor deficiency type A affected less than 0.01 people in 10,000 per year in the European Union (EU)[*]. This is equivalent to a total of fewer than 500 people per year, which was considered to be below the threshold for orphan designation. This is based on the information provided by the sponsor and the knowledge of the Committee for Orphan Medicinal Products (COMP).

What treatments are available?

At the time of designation, no satisfactory methods were authorised in the EU for the treatment of molybdenum cofactor deficiency type A. Treatments aimed at relieving the symptoms of the disease, such as using medicines to control seizures, and at providing general support to help care for the patients.

How is this medicine expected to work?

To make this medicine, cyclic pyranopterin monophosphate is extracted from bacteria and then purified. It is expected to work by providing molybdenum cofactor deficiency type A patients with the substance that they are lacking. The body is expected to use this medicine to produce molybdenum cofactor, allowing it to start producing molybdenum-dependent enzymes and reducing the levels of sulfite in the brain.

What is the stage of development of this medicine?

At the time of submission of the application for orphan designation, the evaluation of the effects of cyclic pyranopterin monophosphate in experimental models was ongoing.

At the time of submission of the application for orphan designation, three patients had been treated with cyclic pyranopterin monophosphate.

At the time of submission, cyclic pyranopterin monophosphate was not authorised anywhere in the EU for the treatment of molybdenum cofactor deficiency type A. Orphan designation of cyclic pyranopterin monophosphate had been granted in United States of America for the treatment of this condition.

In accordance with Regulation (EC) No 141/2000 of 16 December 1999, the COMP adopted a positive opinion on 2 June 2010 recommending the granting of this designation.

[*]Disclaimer: For the purpose of the designation, the number of patients affected by the condition is estimated and assessed on the basis of data from the European Union (EU 27), Norway, Iceland and Liechtenstein.
At the time of designation, this represented a population of 506,300,000 (Eurostat 2010).

Opinions on orphan medicinal product designations are based on the following three criteria:

- the seriousness of the condition;
- the existence of alternative methods of diagnosis, prevention or treatment;
- either the rarity of the condition (affecting not more than 5 in 10,000 people in the EU) or insufficient returns on investment.

Designated orphan medicinal products are products that are still under investigation and are considered for orphan designation on the basis of potential activity. An orphan designation is not a marketing authorisation. As a consequence, demonstration of quality, safety and efficacy is necessary before a product can be granted a marketing authorisation.

For more information

Sponsor's contact details:

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For contact details of patients' organisations whose activities are targeted at rare diseases see:

- Orphanet, a database containing information on rare diseases which includes a directory of patients' organisations registered in Europe.
- European Organisation for Rare Diseases (EURORDIS), a non-governmental alliance of patient organisations and individuals active in the field of rare diseases.

Translations of the active ingredient and indication in all official EU languages[1], Norwegian and Icelandic

Language	Active ingredient	Indication
English	Cyclic pyranopterin monophosphate	Treatment of molybdenum cofactor deficiency type A
Bulgarian	Цикличен пираноптерин монофосфат	Лечение на молибден кофактор недостатъчност тип А
Czech	Cyklický pyranopterin monofosfát	Léčba deficitu molybdenového kofaktoru typu A
Danish	Cyklisk pyranopterin monophosphat	Behandling af molybdæn cofaktor mangel type A
Dutch	Cyclisch pyranopterine monofosfaat	Behandeling van Molybdeen Cofactor Deficiëntie Type A
Estonian	Tsükliline püranopteriin monofosfaat	Molübdeeni kofaktori vaeguse tüüp A ravi.
Finnish	Syklinen pyranopteriini monofosfaatti	Molybdeenikofaktoripuutoksen tyyppi-A:n hoito
French	Pyranopterine mono-phosphate cyclique	Traitement du déficit en molybdène cofacteur de type A
German	Zyklisches Pyranopterinmonophosphat	Behandlung der Molybdäncofaktor-Defizienz Typ A
Greek	Κυκλική μονοφωσφορική πυρανοπτερίνη	Θεραπεία ασθενών με έλλεψη μολυβδενικού παράγοντα τύπου Α
Hungarian	Ciklikus pyranopterin monofoszfát	Molibdén kofaktor A hiány kezelésére
Italian	Piranopterina monofosfato ciclica	Trattamento della deficienza di cofattore molibdeno, di tipo A
Latvian	Cikliskais piranopterīna monofosfāts	A tipa molibdēna kofaktora deficīta ārstēšana
Lithuanian	Ciklinis piranopterino monofosfatas	Molibdeno kofaktoriaus stokos A tipo gydymas
Maltese	Cyclic pyranopterin monophosphate	Kura tan-nuqqas ta' kofattur molybdenum tat-tip A
Polish	Cykliczny monofosforan piranopteryny	Leczenie niedoboru kofaktora molibdenowego typu A
Portuguese	Piranopterina cíclica monofostato	Tratamento da deficiência de Co-factor de Molibdênio do tipo A
Romanian	Piranopterina monofosfat ciclică	Tratamentul deficienţei de cofactor al molibdenului de tip A
Slovak	Cyklický monofosfát pyranopterínu	Liečba deficitu molybdénového kofaktora typu A
Slovenian	Ciklični piranopterinmonofosfat	Zdravljenje pomanjkanja molibdenovega kofaktorja tipa A
Spanish	Piranopterina cíclica monofosfato	Tratamiento de la deficiencia de cofactor de molibdeno grupo A
Swedish	Cyclisk pyranopterin monofosfat	Behandling av molybden cofaktor brist typ A
Norwegian	Syklisk pyranopterinmonofosfat	Behandling av molybden kofaktor-mangel type A
Icelandic	Cýclic pýranopterín einfosfat	Meðferð við molybdenum Cófactor tegund A skorti

[1] At the time of designation