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Committee for Orphan Medicinal Products

Public summary of opinion on orphan designation

Cholest-4-en-3-one, oxime for treatment of amyotrophic lateral sclerosis

First publication	23 April 2009
Rev.1: withdrawal from the Community Register	13 December 2012
Rev.2: administrative update	14 October 2013

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.

Please note that this product was withdrawn from the Community Register of designated orphan medicinal products in December 2012 on request of the sponsor

On 28 August 2006, orphan designation (EU/3/06/397) was granted by the European Commission to Trophos SA, France, for cholest-4-en-3-one, oxime for the treatment of amyotrophic lateral sclerosis

What is amyotrophic lateral sclerosis?

Amyotrophic lateral sclerosis is a progressive, neurological disease. Amyotrophic lateral sclerosis occurs when specific nerve cells in the brain and spinal cord that control voluntary movement gradually deteriorate. The loss of these so-called motor neurons causes the muscles under their control to weaken and waste away, leading to paralysis. Amyotrophic lateral sclerosis varies from patient to patient, depending on which muscles weaken first. Symptoms may include tripping and falling, loss of motor control in hands and arms, difficulty speaking, swallowing and/or breathing, persistent fatigue, and twitching and cramping. Amyotrophic lateral sclerosis strikes in mid-life. Men are about one-and-a-half times more likely to have the disease as women. Amyotrophic lateral sclerosis is chronically debilitating and life-threatening.

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

At the time of designation, amyotrophic lateral sclerosis affected approximately 0.4 in 10,000 people in the European Union (EU). This was equivalent to a total of around 19,000 people*, and is below the ceiling for orphan designation, which is 5 people in 10,000. 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?

A medicinal product was authorised for the condition in the Community at the time of submission of the application for orphan drug designation. Cholest-4-en-3-one, oxime might be of potential significant benefit for the treatment of amyotrophic lateral sclerosis because it would improve the treatment of patients with amyotrophic lateral sclerosis. The benefit will have to be confirmed at the time of marketing authorisation. This will be necessary to maintain the orphan status.

How is this medicine expected to work?

Cholest-4-en-3-one, oxime is a substance that derives from cholesterol and is expected to protect the motor neurons both by stimulating their repair and delaying their death. The exact mechanism of action is not known; effects on cellular structures called “mitochondria” may be involved.

What is the stage of development of this medicine?

The evaluation of the effects of cholest-4-en-3-one, oxime in experimental models is ongoing.

At the time of submission of the application for orphan designation, clinical trials in patients with amyotrophic lateral sclerosis were ongoing.

Cholest-4-en-3-one, oxime was not authorised anywhere worldwide for treatment of amyotrophic lateral sclerosis, at the time of submission.

Orphan designation of cholest-4-en-3-one, oxime was granted in U.S. for amyotrophic lateral sclerosis.

In accordance with Regulation (EC) No 141/2000 of 16 December 1999, the COMP adopted a positive opinion on 12 July 2006 recommending the granting of this designation.

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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.

*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 25), Norway, Iceland and Liechtenstein.
At the time of designation, this represented a population of 468,900,000 (Eurostat 2006).

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	Cholest-4-en-3-one, oxime	Treatment of amyotrophic lateral sclerosis
Czech	Cholest-4-en-3-one, oxim	Léčba amyotrofické laterální sklerózy
Danish	Cholest-4-en-3-on, oxim	Behandling af amyotrofisk lateralsklerose
Dutch	Cholest-4-en-3-on, oxime	Behandeling van amyotrofe lateraalsclerose
Estonian	Cholest-4-en3-one, oksiim	Amüotroofilise lateraalskleroosi ravi
Finnish	Kolest-4-ja-3-yksi, oksimi	Amylotrofisen lateraaliskleroosin hoito
French	Cholest-4-ène-3-one, oxime	Traitement de la sclérose latérale amyotrophique
German	Cholest-4-in-3-one, Oxime	Zur Behandlung der amyotrophischen Lateralsklerose
Greek	Χοληστ-(4)-εν-(3)-όνη, οξίμη	Θεραπεία πλάγιας μυοατροφικής σκλήρυνσης
Hungarian	Cholest-4-en-3-on, oxim	Amyotrophiás lateral sclerosis kezelése
Italian	4-colesten-3-one, ossima	Trattamento della sclerosi laterale amiotrofica
Latvian	Holest-4-en-3-ons, oksīms	Amiotrofiskās laterālās sklerozes ārstēšana
Lithuanian	Cholest-4-en-3-vienas, oksimas	Šoninės amiotrofinės sklerozės gydymas
Polish	Cholest-4-eno-3-onu oksym	Leczenie stwardnienia bocznego zanikowego
Portuguese	Colest-4-en-3-ona,oximo	Tratamento da esclerose lateral amiotrófica
Slovak	Cholest-4-en-3-one, oxím	Liečba amyotrofickej laterálnej sklerózy
Slovenian	Kolestenon, oksim	Zdravljenje amiotrofične lateralne skleroze
Spanish	Colest-4-en-3-ona, oxima	Tratamiento de la esclerosis lateral amiotrófica
Swedish	Cholest-4-en-3-on, oxim	Behandling av amyotrofisk lateralskleros
Norwegian	Kolest-4-en-3-on,oksim	Behandling av amyotrofisk lateralsklerose
Icelandic	Kólest -4- en-3-ón, oxím	Meðferð við blandaðri hreyfitaugahrörnun

[1] At the time of designation