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Committee for Orphan Medicinal Products

Public summary of opinion on orphan designation

Recombinant human arylsulfatase A for the treatment of metachromatic leukodystrophy

On 26 November 2010, orphan designation (EU/3/10/813) was granted by the European Commission to Shire Pharmaceuticals Ireland Limited, Ireland, for recombinant human arylsulfatase A for the treatment of metachromatic leukodystrophy.

What is metachromatic leukodystrophy?

Metachromatic leukodystrophy is a hereditary disease that is caused by the lack of an enzyme called arylsulfatase A. This enzyme is needed to break down substances in the body called sulfatides. As patients with the disease cannot break sulfatides down, sulfatides gradually build up in the cells of the nervous system and destroy the sheath around the nerves. This causes a wide range of symptoms, such as muscle wasting and paralysis, progressive loss of vision, seizures (fits) and dementia (loss of intellectual function).

Metachromatic leukodystrophy is a seriously debilitating and life-threatening disease because the symptoms get worse over time, leading to severe disability and death usually in adolescence.

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

At the time of designation, metachromatic leukodystrophy affected approximately 0.01 in 10,000 people in the European Union (EU)*. This is equivalent to a total of around 500 people, and is below the threshold 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?

At the time of designation, no satisfactory methods were authorised in the EU for the treatment of metachromatic leukodystrophy. Patients received supportive treatment to temporarily relieve the symptoms of the disease, such as physiotherapy and antiepileptic medicines. In a minority of cases,

*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. This represents a population of 506,500,000 (Eurostat 2010).

7 Westferry Circus ● Canary Wharf ● London E14 4HB ● United Kingdom
Telephone +44 (0)20 7418 8400 **Facsimile** +44 (0)20 7523 7040
E-mail info@ema.europa.eu **Website** www.ema.europa.eu

haematopoietic stem-cell transplantation was used (a complex procedure where the patient receives stem cells to help restore the bone marrow).

How is this medicine expected to work?

Recombinant human arylsulfatase A is expected to work in the same way as the human arylsulfatase A, which is missing in patients with metachromatic leukodystrophy. The replacement enzyme is expected to help break down sulfatides and stop them accumulating in the nervous system, thereby relieving the symptoms of the disease.

The medicine is made by a method known as 'recombinant DNA technology': it is made by human cells that have received a gene (DNA) that makes them able to produce arylsulfatase A.

What is the stage of development of this medicine?

The effects of a similar medicine derived from hamster cells have been evaluated in experimental models.

At the time of submission of the orphan designation application, no clinical trials with recombinant human arylsulfatase A in patients with metachromatic leukodystrophy had been started.

At the time of submission, recombinant human arylsulfatase A was not authorised anywhere in the EU for metachromatic leukodystrophy. Orphan designation of this medicine had been granted in the United States of America for metachromatic leukodystrophy.

In accordance with Regulation (EC) No 141/2000 of 16 December 1999, the COMP adopted a positive opinion on 9 September 2010 recommending the granting of this designation.

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:

Shire Pharmaceuticals Ireland Limited
5 Riverside Walk
Citywest Business Campus
Dublin 24
Ireland
Telephone: +353 14297700
Telefax: +353 1 4297701
E-mail: fdebrito@shire.com

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	Recombinant human arylsulfatase A	Treatment of metachromatic leukodystrophy
Bulgarian	Рекомбинантна човешка арилсулфатаза А	Лечение на метахроматична левкодистрофия
Czech	Rekombinantní lidská arylsulfatáza A	Léčba metachromatická leukodystrofie
Danish	Rekombinant human arylsulfatase A	Behandling af metakromatisk leukodytrofi
Dutch	Recombinant humaan arylsulphatase A	Behandeling van metachromatische leukodystrophie
Estonian	Rekombinantne inimese arüülsulfataas A	Metakromaatilise leukotsütoosi ravi
Finnish	Rekombinantti humaani aryylisulfataasi A	Metakromaattisen leukodystrofian hoito
French	Arylsulphatase A recombinante humaine	Traitement de la leucodystrophie métachromatique
German	Recombinante menschliche arylsulfatase A	Behandlung der Metachromatischen Leukodystrophie
Greek	Ανασυνδυασμένη ανθρώπινη αρυλοσουλφατάση Α	Θεραπεία μεταχρωματικής λευκοδυστροφίας
Hungarian	Rekombináns humán arylsulfatase A	Metachromasiás leukodystrophia kezelése
Italian	Arylsulfatasi A umana ricombinante	Trattamento della leucodistrofia metacromatica
Latvian	Rekombinētās cilvēka arilsulfatāze A	Metahromas leikodistrofijas ārstēšanai
Lithuanian	Rekombinantinis žmogaus arilsulfatazė A	Metachrominės leukodistrofijos gydymas
Maltese	*Arylsulfatase* A uman rikombinanti	Kura tal-lewkodistrofija metakromatika
Polish	Ludzka rekombinowana arylosulfataza A	Leczenie zespołu leukodystrofii metachromatycznej
Portuguese	Arilsulfatase A Recombinante Humana	Tratamento da Leucodistrofia Metacromática
Romanian	Arilsulfatază A umană recombinantă	Tratamentul leucodistrofiei metacromatice
Slovak	Rekombinantná ľudská arylsulfatáza A	Liečba metachromatickej leukodystrofie
Slovenian	Rekombinantna humana arilsulfataza A	Zdravljenje metakromatske levkodistrofije
Spanish	Arilsulfatasa A recombinante humana	Tratamiento de la leucodistrofia metacromática
Swedish	Recombinant human arylsulfatase A	Behandling av metakromatisk leukodystrofi
Norwegian	Rekombinant human arylsulfatase A	Behandling av metachromatisk leukodystrofi
Icelandic	Raðbrigða arýlsúlfatasi-A úr mönnum	Medferð metakrómatískri leukodystrófíu

[1] At the time of designation