EMA/COMP/24465/2006 Rev.3
Committee for Orphan Medicinal Products

Public summary of opinion on orphan designation

Oxalobacter formigenes strain HC-1 for the treatment of primary hyperoxaluria

First publication	26 January 2009
Rev.1: administrative update	25 May 2011
Rev.2: sponsor's change of address	9 November 2011
Rev.3: sponsor's change of address	12 June 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.

On 17 February 2006, orphan designation (EU/3/06/354) was granted by the European Commission to OxThera AB, Sweden, for *Oxalobacter formigenes* strain HC-1 for the treatment of primary hyperoxaluria.

What is primary hyperoxaluria?

Primary hyperoxaluria (PH) is a hereditary disorder (passed from one generation to the next) characterised by excessive urinary excretion of a chemical known as oxalate. The condition causes a special type of oxalate-containing stone to form in the kidney. Patients with PH develop renal insufficiency early in life and die of uraemia/renal failure in childhood or early adult life. Oxalate can also be deposited in the heart, the walls of arteries and veins, blocking their normal function. It can also accumulate in the bones, kidneys and in urogenital tract of men.

PH is a genetic, autosomal recessive condition; it can be passed to a person regardless of gender, only if both his/her parents carry the genetic information for PH. PH is classified as type I or type II hyperoxaluria. Both PH types are essentially deficiencies of enzymes, proteins that speed-up (catalyze) chemical reactions in the body. In patients with type I hyperoxaluria, the liver-specific enzyme pyridoxal-phosphate-dependent enzyme alanine-glyoxylate aminotransferase (AGT) is missing. Type II hyperoxaluria is caused by low or absent activity of the enzyme glyoxylate reductase (GR). Primary hyperoxaluria is a chronically debilitating and life threatening condition.

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
An agency of the European Union

© European Medicines Agency, 2013. Reproduction is authorised provided the source is acknowledged.

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

At the time of designation, primary hyperoxaluria affected less than 1 in 10,000 people in the European Union (EU). This is equivalent to a total of fewer than 47,000 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?

No satisfactory methods exist that were authorised at the time of application. Taking a lot of fluid is recommended to maintain high production of urine. Combined liver and kidney transplantation could be an option in young children.

How is this medicine expected to work?

Oxalobacter formigenes is a bacterium able to degrade oxalate, the chemical that accumulates in PH. This micro-organism is a part of the normal gut flora and depends on oxalate, as it is its energy source. The human HC-1 strain selected for use is capable of growing in the gut and degrading high amounts of oxalate from food. It is expected that these bacteria will be able to break down oxalate in the gut and they might be able to reduce it from the kidneys, urine and blood.

What is the stage of development of this medicine?

The effects of *Oxalobacter formigenes* strain HC-1 were evaluated in experimental models.

At the time of submission of the application for orphan designation, clinical trials in patients with primary hyperoxaluria were ongoing.

Oxalobacter formigenes strain HC-1 was not authorised anywhere worldwide for the treatment of primary hyperoxaluria or designated as orphan medicinal product elsewhere for this condition, at the time of submission.

In accordance with Regulation (EC) No 141/2000 of 16 December 1999, the COMP adopted a positive opinion on 11 January 2006 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 25), Norway, Iceland and Liechtenstein.
At the time of designation, this represented a population of 468,900,000 (Eurostat 2006).

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:

OxThera AB
Sturegatan 56
114 36 Uppsala
Sweden
Telephone: +46 18 24 40 45
E-mail: info@oxthera.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	*Oxalobacter formigenes* strain HC-1	Treatment of primary hyperoxaluria
Czech	*Bakterie Oxalobacter formigenes* kmen HC-1	Léčba primární hyperoxalurie
Danish	*Oxalobakter formigenes* HC-1	Behandling af primær hyperoxaluri
Dutch	*Oxalobacter formigenes* stam HC-1	Behandeling van primaire hyperoxaalurie
Estonian	*Oxalobacter formigenes*'e tüvi HC-1	Esmase hüperoksaluuria ravi
Finnish	*Oxalobacter formigenes* kanta HC-1	Primaarisen hyperoksalurian hoito
French	*Oxalobacter formigenes* souche HC-1	Traitement de l'hyperoxalurie primaire
German	*Oxalobacter formigenes* Stamm HC-1	Behandlung der primären Hyperoxalurie
Greek	*Oxalobacter formigenes* – στέλεχος HC-1	Θεραπεία της πρωτοπαθούς υπεροξαλουρίας
Hungarian	*Oxalobacter formigenes* HC-1 törzs	Primer hiperoxaláturia kezelése
Italian	*Oxalobacter formigenes ceppo HC-1*	Trattamento dell'iperossaluria primaria
Latvian	*Oxalobacter formigenes* celms HC-1	Primārās hiperoksalūrijas ārstēšanai
Lithuanian	*Oxalobacter formigenes*, HC-1 štamas	Pirminės hyperoksalurijos gydymas
Polish	*Oxalobacter formigenes* szczep HC-1	Leczenie pierwotnej hiperoksalurii
Portuguese	*Oxalobacter formigenes* estirpe HC-1	Tratamento de hiperoxalúria primária
Slovak	*Oxalobacter formigenes*, kmeň HC-1	Liečba primárnej hyperoxalúrie
Slovenian	*Oxalobacter formigenes* sev HC-1	Zdravljenje primarne hiperoksalurije
Spanish	*Oxalobacter formigenes* cepa HC-1	Tratamiento de la hiperoxaluria primaria
Swedish	*Oxalobacter formigenes* stam HC-1	Behandling av primär hyperoxaluri
Norwegian	*Oxalobacter formigenes* stamme HC-1	Behandling av primær hyperoksaluri
Icelandic	*Oxalobacter formigenes* stofn HC-1	Meðferð á frumkominni þvagoxalaukningu

[1] At the time of designation