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Public summary of opinion on orphan designation

Liposomal mannose-1-phosphate for the treatment of phosphomannomutase 2-congenital disorder of glycosylation

On 31 July 2018, orphan designation (EU/3/18/2047) was granted by the European Commission to Glycomine SARL, France, for liposomal mannose-1-phosphate for the treatment of phosphomannomutase 2-congenital disorder of glycosylation.

What is phosphomannomutase 2-congenital disorder of glycosylation?

Phosphomannomutase 2-congenital disorder of glycosylation (PMM2-CGD) belongs to a group of inherited disorders that are caused by the lack of an enzyme involved in the glycosylation process. Glycosylation involves attachment of sugars to certain proteins or fats (lipids) to enable them to carry out various essential functions in the body.

In PMM2-CDG, an enzyme called phosphomannomutase 2 does not work correctly, meaning that a sugar needed for glycosylation, called mannose-1-phosphate, cannot be formed. This prevents glycosylation of various proteins essential for development and normal body function, leading to symptoms including delayed development, intellectual disability, bone and joint deformities, fits, problems with vision and coordination, and liver, heart and circulatory problems.

PMM2-CDG is a long-term debilitating and life-threatening disease because of damage to various organs and tissues.

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

At the time of designation, PMM2-CDG affected less than 0.1 in 10,000 people in the European Union (EU). This was equivalent to a total of fewer than 5,000 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).

*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 28), Norway, Iceland and Liechtenstein. This represents a population of 517,400,000 (Eurostat 2018).

30 Churchill Place ● Canary Wharf ● London E14 5EU ● United Kingdom
Telephone +44 (0)20 3660 6000 **Facsimile** +44 (0)20 3660 5555
Send a question via our website www.ema.europa.eu/contact

What treatments are available?

At the time of designation, no satisfactory methods were authorised in the EU for the treatment of PMM2-CDG. Patients were given supportive care including occupational, physical and speech therapy, and feeding via a tube where necessary.

How is this medicine expected to work?

The medicine is made of the sugar mannose-1-phosphate, which patients cannot make for themselves because they do not have a working phosphomannomutase 2 enzyme. The sugar is encapsulated in fatty particles called 'liposomes' which protect it from being broken down and allow it to be delivered into liver cells where most glycosylation takes place. The medicine is expected to work by replacing the missing sugar and allowing the glycosylation process to proceed normally. This is expected to relieve the symptoms of PMM2-CDG.

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 the medicine in experimental models was ongoing.

At the time of submission of the application for orphan designation, no clinical trials with the medicine in patients with PMM2-CDG had been started.

At the time of submission, the medicine was not authorised anywhere in the EU for PMM2-CDG or designated as an orphan medicinal product elsewhere for this condition.

In accordance with Regulation (EC) No 141/2000 of 16 December 1999, the COMP adopted a positive opinion on 21 June 2018 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:

Contact details of the current sponsor for this orphan designation can be found on EMA website, on the medicine's rare disease designations page.

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	Liposomal mannose-1-phosphate	Treatment of phosphomannomutase-2 congenital disorder of glycosylation
Bulgarian	Липозомен маноза-1-фосфат	Лечение на фосфоманомутаза 2 вродено нарушение на гликозилирането
Croatian	Liposomni manoza-1-fosfat	Liječenje fosfomanomutaza-2 prirođenog poremećaja glikozilacije
Czech	Liposomální manóza-1-fosfát	Léčba vrozené poruchy glykosylace způsobené mutací genu fosfomanomutázy 2
Danish	Liposomal mannose-1-fosfat	Behandling af medfødt fosfomannomutase 2 glykosyleringsdefekt
Dutch	Liposomaal mannose-1-fosfaat	Behandeling van fosfomannomutase-2 congenitaal defect in de glycosylering
Estonian	Liposomaalne mannoos-1-fosfaat	Glükosüülimise kaasasündinud defekti (fosfomannomutaas II defitsiit) ravi
Finnish	Liposomaalinen mannoosi-1-fosfaatti	Fosfomannomutaasi 2:sta aiheutuvan synnynnäisen glykosylaation häiriön hoito
French	Mannose-1-phosphate liposomal	Traitement de l'anomalie congénitale de la glycosylation par déficit en phosphomannomutase 2
German	Liposomales Mannose-1-phosphat	Behandlung der kongenitalen Glykosylierungsstörung Phosphomannomutase 2-Mangel
Greek	Λιποσωμιακή 1-φωσφορική μαννόζη	Θεραπεία της συγγενούς διαταραχής της γλυκοζυλίωσης της φωσφομαννομουτάσης-2
Hungarian	Liposzomális mannóz-1-foszfát	A foszfomannomutáz 2 enzimhez kötött veleszületett glikozilációs zavar kezelése
Italian	Mannosio-1-fosfato liposomiale	Trattamento del disturbo congenito della glicosilazione con deficit di fosfomannomutasi 2
Latvian	Liposomāls mannozes-1-fosfāts	Fosfomannomutāzes 2 iedzimto glikozilācijas traucējumu ārstēšana
Lithuanian	Liposomų manozės-1-fosfatas	Fosfomano mutazės-2 įgimto glikozilinimo sutrikimo gydymas
Maltese	Fosfat-1-tal-mannożju liposomali	Trattament għal disturb konġenitali ta' fosfomannomutaży-2 ta' glikosilazzjoni
Polish	Mannozo-1-fosforan liposomalny	Leczenie wrodzonego zaburzenia glikozylacji spowodowanego mutacją genu fosfomannomutazy 2
Portuguese	Manose-1-fosfato lipossomal	Tratamento da doença congénita da glicosilação com défice da fosfofomanomutase 2
Romanian	Manoză-1-fosfat lipozomală	Tratamentul anomaliei congenitale de glicozilare prin deficit de fosfomanomutază 2
Slovak	Lipozomálna manóza-1-fosfát	Liečba dedičnej poruchy glykozylácie fosfomanomutázy 2

[1] At the time of designation

Language	Active ingredient	Indication
Slovenian	Liposomski manoza-1-fosfat	Zdravljenje prirojene motnje glikozilacije fosfomanomutaze-2
Spanish	Manosa-1-fosfato liposomal	Tratamiento del trastorno congénito de la glicosilación por deficiencia de la fosfomanomutasa 2
Swedish	Liposomalt mannos-1-fosfat	Behandling av fosfomannomutase 2 medfödd glykosyleringsdefekt
Norwegian	Liposomalt mannose-1-fosfat	Behandling av fosfomannomutase 2 medfødt glykosyleringsdefekt
Icelandic	Lípósóma-mannósa-1-fosfat	Meðferð við meðfæddri fosfómannómútasa 2 röskun