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Public summary of opinion on orphan designation

Miglustat for the treatment of glycogen storage disease type II (Pompe's disease)

On 11 January 2019, orphan designation (EU/3/18/2129) was granted by the European Commission to Amicus Therapeutics UK Limited, United Kingdom, for miglustat for the treatment of glycogen storage disease type II (Pompe's disease).

What is glycogen storage disease type II (Pompe's disease)?

Glycogen storage disease type II, also known as Pompe's disease, is an inherited disorder caused by the lack of an enzyme called acid alpha-glucosidase (GAA). This enzyme is contained in lysosomes (part of the body's cells that break down nutrients and other materials). GAA breaks down glycogen (a complex sugar stored in the body) into glucose (a simple sugar). When this enzyme is lacking, large amounts of glycogen build up in the muscles, including the heart and diaphragm (the main breathing muscle under the lungs). The progressive build-up of glycogen causes a wide range of signs and symptoms, including heart problems, breathing difficulties and muscle weakness.

Glycogen storage disease type II is a long-term debilitating and life-threatening disease because it causes breathing and heart problems and is associated with premature death.

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

At the time of designation, glycogen storage disease type II affected approximately 0.3 in 10,000 people in the European Union (EU). This was equivalent to a total of around 16,000 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).

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What treatments are available?

At the time of designation, Myozyme (alglucosidase alfa) was authorised for the treatment of glycogen storage disease type II in the EU. Myozyme is an enzyme replacement therapy that works by replacing the missing GAA enzyme.

The sponsor has provided sufficient information to show that miglustat might be of significant benefit for patients with glycogen storage disease type II. Laboratory studies have shown that the medicine used in combination with an enzyme replacement therapy improves muscle function more than the authorised treatment alone. This assumption will need to be confirmed at the time of marketing authorisation, in order to maintain the orphan status.

How is this medicine expected to work?

Miglustat is intended to be used in combination with a replacement enzyme called recombinant human acid alpha-glucosidase, which is similar to natural GAA. The medicine prevents the replacement enzyme from breaking down in the blood so more of it is expected to get into the lysosomes. This is expected to improve symptoms of the disease. Recombinant human acid alpha-glucosidase (also known as ATB200) was granted orphan designation in the EU in March 2018 (further information can be found here).

What is the stage of development of this medicine?

The effects of miglustat have been evaluated in experimental models.

At the time of submission of the application for orphan designation, clinical trials with miglustat in patients with glycogen storage disease type II were ongoing.

Miglustat is authorised in the EU under the trade name Zavesca for the treatment of type-1 Gaucher disease and Niemann-Pick type-C disease.

At the time of submission, miglustat was not authorised anywhere in the EU for glycogen storage disease type II. Orphan designation of miglustat had been granted in the United States for this condition.

In accordance with Regulation (EC) No 141/2000 of 16 December 1999, the COMP adopted a positive opinion on 6 December 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 the EMA website.

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 orphan condition in all official EU languages[1], Norwegian and Icelandic

Language	Active ingredient	Indication
English	Miglustat	Treatment of glycogen storage disease type II (Pompe's disease)
Bulgarian	Миглустат	Лечение на тип 2 гликогеноза (Болест на Помпе)
Croatian	Miglustat	Liječenje bolesti nagomilavanja glikogena tip II (Pompeova bolest)
Czech	Miglustat	Léba glykogenózy typu II (Pompeho choroba)
Danish	Miglustat	Behandling af glycogenose type II (Pompes sygdom)
Dutch	Miglustaat	Behandeling van de glycogeenstapelingsziekte type II (Pompe-ziekte)
Estonian	Miglustaat	Glükogenoos II (Pompe tõve) ravi
Finnish	Miglustaatti	Tyyppi II glykogenoosin (Pompen tauti) hoito
French	Miglustat	Traitement de la glycogénose de type II (maladie de Pompe)
German	Miglustat	Behandlung der Glykogenspeicherkrankheit Typ II (Pompe-Krankheit)
Greek	Μιγλουστάτη	Θεραπεία της Γλυκογόνωσης τύπου ΙΙ (Νόσος του Pompe)
Hungarian	Miglusztát	II-es típusú glikogéntárolási betegség (Pompe-kór) kezelése
Italian	Miglustat	Trattamento della glicogenosi, tipo II (malattia di Pompe)
Latvian	Miglustats	Glikogēna uzkrāsanas II tipa traucējumu (Pompe slimība) ārstēšana
Lithuanian	Miglustatas	II tipo glikogenozės (Pompe ligos) gydymas
Maltese	Miglustat	Kura tal-glikoġenożi tat-tip II (marda ta' Pompe)
Polish	Miglustat	Leczenie choroby spichrzania glikogenu typu II (choroby Pompego)
Portuguese	Miglustat	Tratamento da glicogenose de tipo II (Doença de Pompe)
Romanian	Miglustat	Tratamentul glicogenozei tip II (boala Pompe)
Slovak	Miglustat	Liečba glykogenózy typ II (Pompeho choroba)
Slovenian	Miglustat	Zdravljenje glikogenoze tipa II (Pompejeva bolezen)
Spanish	Miglustat	Tratamiento de la enfermedad de almacenamiento del glucógeno tipo II (enfermedad de Pompe)
Swedish	Miglustat	Behandling av glykogen upplagringssjukdom typ II (Pompes sjukdom)
Norwegian	Miglustat	Behandling av glykogenose type II (Pompes sykdom)
Icelandic	Miglustat	Meðferð á glýkógenupphleðslu sjúkómi af gerð II (Pompes sjúkdómur)

[1] At the time of designation