13 March 2015
EMA/COMP/374393/2014 Rev.1
Committee for Orphan Medicinal Products

Public summary of opinion on orphan designation

Eculizumab for the treatment myasthenia gravis

First publication	27 August 2014
Rev.1: sponsor's change of address	13 March 2015

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 29 July 2014, orphan designation (EU/3/14/1304) was granted by the European Commission to Alexion Europe SAS, France, for eculizumab for the treatment of myasthenia gravis.

What is myasthenia gravis?

Myasthenia gravis is a disease that leads to muscle weakness and tiredness. It is an immune disorder in which the immune system (the body's natural defences) attacks and damages 'acetylcholine receptors' on the surface of muscle cells. For a muscle to contract, a substance called acetylcholine is released from a nerve and attaches to the acetylcholine receptors on the muscle cells. In myasthenia gravis, because of the damage to these receptors, the muscles are not able to contract as well as normal. In most patients, the disease is associated with abnormalities of a gland in the chest called the thymus, which is part of the immune system.

In myasthenia gravis, the muscles involved in swallowing and those around the eyes are commonly affected first, causing difficulty in swallowing and the eyelids to droop. Muscle weakness typically worsens towards the end of the day and after exercise.

Myasthenia gravis is a long-term debilitating disease and may be life-threatening when the muscles involved in breathing are affected.

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 is the estimated number of patients?

At the time of designation, myasthenia gravis affected less than 2 in 10,000 people in the European Union (EU). This was equivalent to a total of fewer than 103,000 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?

At the time of designation, a number of medicines were authorised in the EU for the treatment of myasthenia gravis. Surgery to remove the thymus gland (thymectomy) was performed in some patients.

The sponsor has provided sufficient information to show that eculizumab might be of significant benefit for patients with myasthenia gravis because it works in a different way to existing treatment and early studies indicate that it might benefit patients in whom other treatments have stopped working. These assumptions 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?

Eculizumab is a monoclonal antibody, a type of protein that has been designed to recognise and attach to a specific structure (called an antigen) that is found in the body. It works by attaching to and blocking the action of a protein called 'C5 complement protein', which is involved in the immune reactions that can cause damage to acetylcholine receptors on the muscle cells. By reducing damage to acetylcholine receptors, the medicine is expected to improve muscle contraction, thereby reducing symptoms of the disease.

What is the stage of development of this medicine?

The effects of eculizumab have been evaluated in experimental models.

At the time of submission of the application for orphan designation, a clinical trial with eculizumab in patients with myasthenia gravis was ongoing.

At the time of submission, eculizumab was not authorised anywhere in the EU for myasthenia gravis 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 12 June 2014 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 28), Norway, Iceland and Liechtenstein.
At the time of designation, this represented a population of 512,900,000 (Eurostat 2014).

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:

Alexion Europe SAS
1-15, avenue Edouard Belin
92500 Rueil-Malmaison
France
Tel. +33 1 47 32 36 21
Fax +33 1 47 10 24 46
E-mail: medicalinformation.europe@alxn.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	Eculizumab	Treatment of myasthenia gravis
Bulgarian	Екулизумаб	Лечение на миастения гравис
Croatian	Ekulizumab	Liječenje miastenije gravis
Czech	Eculizumab	Léčba myasthenie gravis
Danish	Eculizumab	Behandling af myasthenia gravis
Dutch	Eculizumab	Behandeling van myasthenia gravis
Estonian	Ekulizumab	Myasthenia Gravise ravi
Finnish	Ekulitsumabi	Myasthenia graviksen hoito
French	Eculizumab	Traitement de la myasthénie grave
German	Eculizumab	Behandlung der Myasthenia Gravis
Greek	Εκουλιζουμάμπη	Θεραπεία της βαρείας μυασθένειας
Hungarian	Ekulizumab	Myasthenia gravis kezelése
Italian	Eculizumab	Trattamento della miastenia grave
Latvian	Ekulizumabs	Myasthenia gravis ārstēšanai
Lithuanian	Ekulizumabas	Generalizuotos miastenijos gydymas
Maltese	Eculizumab	Kura ta' myasthenia gravis
Polish	Ekulizumab	Leczenie miastenii gravis
Portuguese	Eculizumab	Tratamento da miastenia gravis
Romanian	Eculizumab	Tratamentul miasteniei gravis
Slovak	Ekulizumab	Liečba myasthenie gravis
Slovenian	Ekulizumab	Zdravljenje miastenije gravis
Spanish	Eculizumab	Tratamiento de la miastenia gravis
Swedish	Eculizumab	Behandling av myasthenia gravis
Norwegian	Ekulizumab	Behandling av myasthenia gravis
Icelandic	Ekúlízúmab	Meðferð við vöðvaslensfári

[1] At the time of designation