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EMA/COMP/18322/2014
Committee for Orphan Medicinal Products

Public summary of opinion on orphan designation

(6aS)-1,10-dimethoxy-6-methyl-5,6,6a,7-tetrahydro-4H-dibenzo[de,g]quinoline-2,9-diol for the treatment of dystrophic myotonia

On 16 January 2014, orphan designation (EU/3/13/1226) was granted by the European Commission to Valentia BioPharma S.L., Spain, for (6aS)-1,10-dimethoxy-6-methyl-5,6,6a,7-tetrahydro-4H-dibenzo[de,g]quinoline-2,9-diol for the treatment of dystrophic myotonia.

What is dystrophic myotonia?

Dystrophic myotonia (also known as 'myotonic dystrophy') is a group of inherited muscle disorders characterised by episodes of myotonia (when muscles are slow to relax after contracting, causing stiffness and pain) and progressive weakening of the muscles. Muscles of the hands, feet, neck or face are usually the first to be affected, and slowly other muscles and organs, including the heart and lungs, are involved. Dystrophic myotonia is caused by two gene mutations (defects) that result in the production of abnormal RNA (the genetic material that guides the production of proteins). The abnormal RNA (known as 'repeat RNA') forms clumps inside the cells that interfere with the production of many proteins, preventing muscle cells and cells in other tissues from functioning normally and leading to the signs and symptoms of dystrophic myotonia.

Dystrophic myotonia is a long-term debilitating condition that may be life threatening because of damage to heart and lung function.

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

At the time of designation, dystrophic myotonia affected less than 2 in 10,000 people in the European Union (EU). This was equivalent to a total of fewer than 102,000 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 512,200,000 (Eurostat 2013).

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What treatments are available?

At the time of the orphan designation, the medicine mexiletine was authorised in one EU member state to treat the symptoms of dystrophic myotonia. Surgery and measures (such as a pacemaker) for the heart, diet, exercise or the use of mobility aids were used as supportive care for patients affected by the condition.

The sponsor has provided sufficient information to show that this medicine might be of significant benefit for patients with dystrophic myotonia because it works in a different way to current treatments and laboratory studies indicate that it might have improved effects compared with available treatments. 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?

Although the way this medicine works is not clearly understood, laboratory studies have shown that this medicine may reduce the build-up of abnormal RNA inside the cells so that it does not interfere with normal cell function, thus reducing the symptoms of the disorder.

What is the stage of development of this medicine?

The effects of this medicine have been evaluated in experimental models.

At the time of submission of the application for orphan designation, no clinical trials with this medicine in patients with dystrophic myotonia had been started.

At the time of submission, this medicine was not authorised anywhere in the EU for dystrophic myotonia 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 17 December 2013 recommending the granting of this designation.

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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:

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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	(6aS)-1,10-dimethoxy-6-methyl-5,6,6a,7-tetrahydro-4H-dibenzo[de,g]quinoline-2,9-diol	Treatment of dystrophic myotonia
Bulgarian	(6aS)-1,10-диметокси-6-метил-5,6,6a,7-тетрахидро-4H-дибензол[de,g]хинолин-2,9-диол	Лечение на дистрофична миотония
Czech	6aS)-1,10-dimethoxy-6-methyl-5,6,6a,7-tetrahydro-4H-dibenzo[de,g]quinoline-2,9-diol	Léčba dystrofické myotonie
Croatian	(6aS)-1,10-dimetoksi-6-metil-5,6,6a,7-tetrahidro-4H-dibenzo[de,g]kinolin-2,9-diol	Liječenje distrofične miotonije
Danish	(6aS)-1,10-dimethoxy-6-methyl-5,6,6a,7-tetrahydro-4H-dibenzo[de,g]quinoline-2,9-diol	Behandling af dystrofisk myotoni
Dutch	(6aS)-1,10-dimethoxy-6-methyl-5,6,6a,7-tetrahydro-4H-dibenzo[de,g]quinoline-2,9-diol	Behandeling van dystrofische myotonie
Estonian	(6aS)-1,10-dimetoksü-6-metüül-5,6,6a,7-tetrahüdro-4H-dibenzo[de,g]quinoliin-2,9-diool	Düstroofilise müotoonia ravi
Finnish	(6aS)-1,10-dimetoksi-6-metyyli-5,6,6a,7-tetrahydro-4H-dibentso[de,g]kinoliini-2,9-glykoli	Dystrofisen myotonian hoito
French	(6aS)-1,10-dimethoxy-6-methyl-5,6,6a,7-tetrahydro-4H-dibenzo[de,g]quinolin-2,9-diol	Traitement de la dystrophie myotonique
German	(6aS)-1,10-Dimethoxy-6-methyl-5,6,6a,7-tetrahydro-4H-dibenzo[de,g]chinolin-2,9-diol	Behandlung der dystrophischen Myotonie
Greek	(6aS)-1,10-διμεθοξυ-6-μεθυλο-5,6,6a,7-τετραυδρο-4H-διβενζο[de,g]κινολινο-2,9-διόλη	Θεραπεία της δυστροφικής μυοτονίας
Hungarian	(6AS)-1,10-dimetoxi-6-metil-5,6,6a,7-tetra-4h-dibenzo[de,g]kinolin-2,9-diol	Dystrophiás myotonia kezelése
Italian	(6aS)-1,10-dimethoxy-6-methyl-5,6,6a,7-tetrahydro-4H-dibenzo[de,g]quinoline-2,9-diol	Trattamento della miotonia distrofica
Latvian	(6aS)-1,10-dimetoksi-6-metil-5,6,6a,7-tetrahidro-4H-dibenzo[de,g]kvinolīn-2,9-diols	Distrofiskas miotonijas ārstēšana
Lithuanian	(6aS)-1,10-dimetoksi-6-metil-5,6,6a,7-tetrahidro-4H-dibenzo[de,g]kvinolino-2,9-diolis	Distrofinės miotonijos gydymas
Maltese	(6aS)-1,10-dimethoxy-6-methyl-5,6,6a,7-tetrahydro-4H-dibenzo[de,g]quinoline-2,9-diol	Kura tal-mijotonija distrofika
Polish	(6aS)-1,10-dimetoksy-6-metylo-5,6,6a,7-tetrahydro-4H-dibenzo[de,g]chinolino-2,9-diol	Leczenie dystrofii miotonicznej
Portuguese	(6aS)-1,10-dimetoxi-6-metil-5,6,6a,7-tetrahidro-4H-dibenzo[de,g]quinoline-2,9-diol	Tratamento da miotonia distrófica
Romanian	(6aS)-1,10-dimetoxi-6-metil-5,6,6a,7-tetrahidro-4H-dibenzo[de,g]chinolină -2,9-diol	Tratamentul miotoniei distrofice

[1] At the time of designation

Language	Active ingredient	Indication
Slovak	(6aS)-1,10-dimetoxy-6-metyl-5,6,6a,7-tetrahydro-4H-dibenzo[de,g]chinolín-2,9-diol	Liečba dystrofickej myotónie
Slovenian	(6aS)-1,10-dimetoksi-6-metil-5,6,6a,7-tetrahidro-4H-dibenzo[de,g]kiinolin-2,9-diol	Zdravljenje distrofične miotonije
Spanish	(6aS)-1,10-dimethoxi-6-methil-5,6,6a,7-tetrahidro-4H-dibenzo[de,g]quinoline-2,9-diol	Tratmiento de la miotonia distrofica
Swedish	(6aS)-1,10-dimetoxy-6-metyl-5,6,6a,7-tetrahydro-4H-dibenzo[de,g]quinolin-2,9-diol	Behandling av dystrofisk myotoni
Norwegian	(6aS)-1,10-dimetoksy-6-metyl-5,6,6a,7-tetrahydro-4H-dibenzo[de,g]kinolin-2,9-diol	Behandling av dystrofisk myotoni
Icelandic	(6aS)-1,10-dímethoxý-6-metýl-5,6,6a,7-tetrahýdró-4H-díbenzó[de,g]quínólín-2,9-díól	Meðferð á mýótóníu dýstrophica