29 February 2012
EMA/COMP/41120/2012
Committee for Orphan Medicinal Products

Public summary of opinion on orphan designation

(1S,3S)-3-amino-4-(difluoromethylene) cyclopentanecarboxylic acid hydrochloride for the treatment of West syndrome

On 9 February 2012, orphan designation (EU/3/12/953) was granted by the European Commission to Catalent Pharma Solutions Limited, United Kingdom, for (1S,3S)-3-amino-4-(difluoromethylene) cyclopentanecarboxylic acid hydrochloride for the treatment of West syndrome.

What is West syndrome?

West syndrome is an epileptic disorder in which young children have regular epileptic seizures (fits) called 'infantile spasms'. The spasms usually start in the first year of life and can affect different parts of the body. Usually when the spasms start occurring, the child's physical and mental development begins to suffer. Children with West syndrome also have a typical abnormal pattern of electrical activity in the brain called 'hypsarrhythmia'. While the disease resolves in some children, the majority will have varying degrees of long-term developmental problems.

West syndrome is a long-term debilitating disease which may be life threatening because of the possibility of severe damage to motor (movement) and cognitive (mental) functions and psychiatric problems.

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

At the time of designation, West syndrome affected approximately 0.8 in 10,000 people in the European Union (EU)*. This is equivalent to a total of around 41,000 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 27), Norway, Iceland and Liechtenstein. This represents a population of 506,300,000 (Eurostat 2011).

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What treatments are available?

At the time of designation, vigabatrin was authorised in the EU for the treatment of West syndrome and was considered to be the standard first-line treatment. Other medicines being used included tetracosactide hexa-acetate, zonisamide and valproic acid.

The sponsor has provided sufficient information to show that (1S,3S)-3-amino-4-(difluoromethylene) cyclopentanecarboxylic acid hydrochloride might be of significant benefit for patients with West syndrome because early studies in experimental models show that the medicine may have a longer duration of action, improved benefits and less retinal side effects than the existing first-line treatment. 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?

The fits and spasms seen in patients with West syndrome are caused by excessive electrical activity in the brain. This medicine is expected to block the action of an enzyme called 'GABA-transaminase', whose role is to breakdown GABA. GABA is the main substance in nerve cells responsible for controlling and reducing excessive electrical activity of the brain. By decreasing the breakdown of GABA, the amount of this substance increases in the brain, which is expected to reduce the fits and spasms seen in patients with West syndrome.

What is the stage of development of this medicine?

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

At the time of submission of the application for orphan designation, no clinical trials in patients with West syndrome had been started.

At the time of submission, the medicine was not authorised anywhere in the EU for West syndrome. Orphan designation had been granted in the United States of America for infantile spasms.

In accordance with Regulation (EC) No 141/2000 of 16 December 1999, the COMP adopted a positive opinion on 7 December 2011 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:

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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	(1S,3S)-3-amino-4-(difluoromethylene) cyclopentanecarboxylic acid hydrochloride	Treatment of West syndrome
Bulgarian	(1S,3S)-3-амино-4-(дифлуорометилен) циклопентан-карбоксилова киселина хидрохлорид	Лечение на синдром на Уест
Czech	Hydrochlorid kyseliny (1S,3S)-3-amino-4-(difluormethylen) cyklopentankarboxylové	Léčba Westova syndromu
Danish	(1S,3S)-3-amino-4-(difluoromethylen) cyclopentancarboxylsyrehydrochlorid	Behandling af West syndrom
Dutch	(1S,3S)-3-amino-4-(difluormethyleen)-cyclopentaancarbonzuurhydrochloride	Behandeling van het syndroom van West
Estonian	(1S,3S)-3-amino-4-(difluorometüleen) tsüklopentaankarboksüülhappe vesinikkloriid	Westi sündroomi ravi
Finnish	(1S,3S)-3-amino-4-(difluorimetyleeni) syklopentaanikarboksyylihappohydrokloridi	Westin oireyhtymän hoito
French	Chlorhydrate de l'acide (1S,3S)-3-amino-4-(difluorométhylène)-cyclopentanecarboxylique	Traitement du syndrome de West
German	(1S,3S)-3-Amino-4-(Difluormethylen) Cyclopentancarbonsäure Hydrochlorid	Behandlung des West-Syndroms
Greek	(1S,3S)-3-αμινο-4-(διφθορομεθυλένο) κυκλοπεντανοκαρβοξυλικό οξύ υδροχλωρικό	Θεραπεία του συνδρόμου West
Hungarian	(1S,3S)-3-amino-4-(difluoromethyl) cyklopentánkarboxylsav hidroklorid	West-szindróma kezelése
Italian	cloridrato dell' acido (1S,3S)-3-amino-4-(difluorometilene) ciclopentanecarbossilico	Trattamento della sindrome di West
Latvian	(1S,3S)-3-amino-4-(difluormetilēn) ciklopentānkarboksilskābes hidrohlorīds	Vesta (West) sindroma ārstēšanai
Lithuanian	(1S,3S)-3-amino-4-(difluormetileno) ciklopentankarboksilo rūgšties hidrochloridas	West sindromo gydymas
Maltese	(1S,3S)-3-amino-4-(difluoromethylene) cyclopentanecarboxylic acid hydrochloride	Kura tas-sindrome ta' West
Polish	Chlorowodorek kwasu (1S,3S)-3-amino-4-(difluorometyleno) cyklopentanokarboksylowego	Leczenie zespołu Westa
Portuguese	Cloridrato do ácido (1S,3S)-3-amino-4-(difluorometileno) ciclopentanocarboxílico	Tratamento da síndrome de West
Romanian	Clorhidrat de acid (1S,3S)-3-amino-4-(difluorometilen) ciclopentancarboxilic	Tratamentul sindromului West
Slovak	Hydrochlorid kyseliny (1S,3S)-3-amino-4-(difluorometylén)-cyklopentánkarboxylovej	Liečba Westovho syndrómu
Slovenian	(1S,3S)-3-amino-4-(difluorometilen) ciklopentankarboksilna kislina hidroklorid	Zdravljenje Westovega sindroma

[1] At the time of designation

Language	Active ingredient	Indication
Spanish	Clorhidrato de ácido (1S,3S)-3-amino-4-(difluorometileno) ciclopentanocarboxílico	Tratamiento del síndrome de West
Swedish	(1S,3S)-3-amino-4-(difluorometylen)-cyklopentankarboxylsyrahydroklorid	Behandling av Wests syndrom
Norwegian	(1S,3S)-3-amino-4-(difluormetylen)-syklopentankarboksylsyrehydroklorid	Behandling av Wests syndrom
Icelandic	(1S,3S)-3-amínó-4-(tvíflúorómetýl) sýklópentankarboxýlsýruhýdróklóríð	Meðferð við West-heilkenni