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Committee for Orphan Medicinal Products

Public summary of opinion on orphan designation

Adeno-associated viral vector encoding an inducible short hairpin RNA targeting claudin-5 (prior to administration of 17-dimethylaminoethylamino-17-demethocygeldanamycin) for the treatment of retinitis pigmentosa

On 8 November 2012, orphan designation (EU/3/12/1069) was granted by the European Commission to Avena Therapeutics Ltd, Ireland, for adeno-associated viral vector encoding an inducible short hairpin RNA targeting claudin-5 (prior to administration of 17-dimethylaminoethylamino-17-demethocygeldanamycin) for the treatment of retinitis pigmentosa.

What is retinitis pigmentosa?

Retinitis pigmentosa is a group of hereditary diseases of the eye that lead to progressive loss of sight. In patients with retinitis pigmentosa, cells in the retina (the light-sensitive surface at the back of the eye) become damaged and eventually die.

Retinitis pigmentosa is a long-term debilitating disease because it causes the patient's sight to get worse, eventually leading to blindness.

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

At the time of designation, retinitis pigmentosa affected less than 3.7 in 10,000 people in the European Union (EU)*. This is equivalent to a total of fewer than 187,000 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, no satisfactory methods were authorised in the EU for treating retinitis pigmentosa. Patients with the condition were given sunglasses to slow down the damage to the retina, genetic counselling (discussion of the risks of passing the condition on to children) and general support.

*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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How is this medicine expected to work?

The medicine consists of a virus containing synthetic genetic material that is designed to reduce production of claudin-5, a protein important for maintaining a tight barrier between circulating blood and the cells of the retina. By reducing the production of this protein, the medicine is expected to make it easier for other medicines to cross the barrier to reach the retina. In this way it is expected to allow a different medicine, called '17-dimethylaminoethylamino-17-demethocygeldanamycin', to be given to the patient and to cross the barrier and protect the cells in the retina against further damage.

The virus is activated by another medicine called doxycycline. Once the doxycycline has worn off the virus will become inactive again, and the normal barrier will be restored.

The type of virus used in this medicine ('adeno-associated virus') does not cause disease in humans.

What is the stage of development of this medicine?

The effects of the medicinal product have been evaluated in experimental models.

At the time of submission of the application for orphan designation, no clinical trials with the medicinal product in patients with retinitis pigmentosa had been started.

At the time of submission, the medicinal product was not authorised anywhere in the EU for retinitis pigmentosa 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 5 October 2012 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	Adeno-associated viral vector encoding an inducible short hairpin RNA targeting claudin-5 (prior to administration of 17-dimethylaminoethylamino-17-demethoxygeldanamycin)	Treatment of retinitis pigmentosa
Bulgarian	Адено-асоциран вирусен вектор, кодиращ индуцируема кратка hairpin РНК, таргетираща клаудин-5 (преди приложение на 17-диметиламиноетиламино-17-деметоцигелданамицин)	Лечение на пигментен ретинит
Czech	Adeno-asociovaný virový vektor kódující inducibilní short hairpin RNA (shRNA) zacílenou na claudin-5 (před podáním 17- dimethylaminoethylamino-17-demethocygeldanamycinu)	Léčba pigmentosní retitinitidy
Danish	Adeno-associeret viral vector kodende for en inducerbar kort ”hairpin” RNA målrettet mod claudin-5 (forud for 17-dimethylaminoethylamino-17-demethocygeldanamycin)	Behandling af retinitis pigmentosa
Dutch	Adeno-geassociëerde virale vector coderend voor een induceerbaar korte haarpin RNA doelend op claudine-5 (voorafgaand tot toediening van 17-dimethylaminoëthylamino-17-demethocygeldanamycine)	Behandeling van retinitis pigmentosa
Estonian	Adenoviirusega assotseerunud viirusvektor, mis kodeerib inducible short hairpin RNA targeting claudin-5 (enne 17-dimetüülaminoetüülamino-17-demetatsüülgeldanamütsiini manustamist)	Pigmentoosse võrkkestapõletiku ravi
Finnish	Adenovirusvektori, joka enkoodaa indusoituvaa lyhyttä ”hairpin” RNA:ta, joka on kohdennettu klaudiini-5:ttä vastaan (annettavaksi ennen 17-dimetyyliaminoetyyliamino-17-demetoksigeldanamysiiniä)	Verkkokalvorappeuman hoito
French	Vecteur viral adéno-associé codant pour un court ARN ciblant la claudine-5 (avant administration du 17-diméthylaminoéthylamino-17-deméthocygeldanamycine)	Traitement de la rétinite pigmentaire
German	Adeno-assoziierter viraler Vector, der für eine induzierbare short hairpin RNA gegen Claudin-5 kodiert (Vor Verabreichung von 17-dimethylaminoethylamino-17-demethocygeldanamycin)	Behandlung der Retinopathia Pigmentosa
Greek	Αδενο-σχετιζόμενος ιϊκός φορέας που κωδικοποιεί για μια βραχεία φουρκέτα RNA (shRNA) που στοχεύει την κλωντίνη-5 (πριν από τη χορήγηση 17-διμεθυλαμινοαιθυλαμινο- 17 δεμεθοξυγελδαναμυκίνης)	Θεραπεία της μελαγχρωστικής αμφιβληστροειδοπάθειας
Hungarian	Adenovirussal asszociált vector, mely a claudin-5-re ható short hairpin RNS képződést indukálja (17-dimetilaminoetilamin-17-demetoxigeldanamicin kezelés előtt)	Retinitis pigmentosa kezelése

[1] At the time of designation

Language	Active ingredient	Indication
Italian	Vettore virale adeno-associato codificante un hairpin RNA corto diretto contro la claudina 5 (prima della somministrazione di 17 dimetil aminoetilamino-17-demethocygeldanamicina)	Trattamento della retinite pigmentosa
Latvian	Adeno-asociētais vīrusa vectors, kurš kodē inducējamu īsās metadatas struktūras RNS, kas mērķēta uz klaudīnu-5 (pirms 17-dimetilaminoetilamino-17-demetocigeldanamicīna ievadīšanas)	Retinitis pigmentosa ārstēšana
Lithuanian	Adeno-asocijuoto viruso vektorius, koduojantis indukuojamą	Pigmentinio retinito gydymas
Maltese	Vettur imnissel mill-adenovirus li jikkodifika *hairpin* RNA qasir induċibbli immirat għall-claudin-5 (qabel ma jiġi amministrat 17-dimethylaminoethylamino-17-demethocygeldanamycin)	Kura tar-retinite pigmentuża
Polish	Wektor adenowirusowy kodujący indukcyjny shRNA ukierunkowany na klaudynę 5 (przed podaniem 17-dimetyloaminoetyloamino-17-demetoksygeldanamycyny)	Leczenie retinopatii barwnikowej
Portuguese	Vetor adenoviral codificando um curto grampo de ARN grampo indutível dirigido a claudina-5 (antes da administração de 17 - (Dimetilaminoetilamino)-17-desmetoxigeldanamicina	Tratamento da retinite pigmentosa
Romanian	Vector adenoviral codificand o secventa scurta ARN inductibila in forma de ac-de-par directionata catre claudin-5 (inainte de administrarea de 17-dimetilaminoetilamino-17-dimetoxigeldamicina)	Tratamentul retinitei pigmentare
Slovak	Adeno-asociovaný vírusový vektor kódujúci indukovateľnú krátku sponkovú (hairpin) RNA zacielenú na klaudín-5 (pred podaním 17- dimetylaminoetylamino-17-demetoxygeldanamycínu)	Liečba retinitis pigmentosa
Slovenian	Adenovirusni vector, kodiran za inducibilno kratkoverižno RNK za klavdin-5 (pred dajanjem 17-dimetilaminoetilamino-17-demetoksigeldanamicina	Zdravljenje pigmentozne retinopatije
Spanish	Vector adenoviral codificando un corto grupo de ARN dirigido a la claudina-5 (antes de la adminstracion de 17-dimetilaminoetilamino-17-desmetoxigeldanamicina)	Tratamiento de retinosis pigmentaria
Swedish	Adeno-associerad viral vektor som kodar för inducerbart kort hårnål RNA riktat mot claudin-5 (före administrering av 17-dimetylaminoetylamino-17-demetoxygeldanamycin)	Behandling av retinitis pigmentosa
Norwegian	Adenoassosiert virusvektor kodende for et induserbart kort hårnål RNA rettet mot claudin-5 (før administrering av 17-dimetylaminoetylamino-17-demetoxygeldanamycin)	Behandling av retinitis pigmentosa
Icelandic	Adenó-tengd veiru ferja sem kóðar virkjanlegt stutt hárnálar DNA sem beinist gegn claudín-5 (áður en 17-dímethýlamínó-17demethócýkgeleldanamýcin er gefið)	Meðferð á retinitis pigmentosa