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EMA/COMP/94352/2013
Committee for Orphan Medicinal Products

Public summary of opinion on orphan designation

Recombinant adeno-associated viral vector containing the human *retinoschisin* gene for the treatment of X-linked juvenile retinoschisis

On 12 March 2013, orphan designation (EU/3/13/1107) was granted by the European Commission to TMC Pharma Services Ltd, United Kingdom, for recombinant adeno-associated viral vector containing the human *retinoschisin* gene for the treatment of X-linked juvenile retinoschisis.

What is X-linked juvenile retinoschisis?

X-linked juvenile retinoschisis is a hereditary eye disorder in which patients are unable to make a protein, retinoschisin, needed for normal function of the retina (the light-sensitive layer at the back of the eye). Typically, the disease damages cells in the central part of the retina called the macula, which is responsible for sharp central vision required for detailed tasks such as reading, driving and recognizing faces. Rarely other complications affecting vision develop, such as retinal detachment, vitreous haemorrhage (leakage of blood vessels in the retina), glaucoma (increased pressure in the eye), cataracts (clouding of the lens) and increased formation of blood vessels in the eye.

Because the condition is caused by a defective gene on the X chromosome it occurs almost exclusively in males, who only have one copy of this chromosome in their cells; in females a second, undamaged copy can compensate for the defective gene.

The condition is long-term debilitating due to the progressive loss of visual acuity and the higher risk of developing visual complications.

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

At the time of designation, X-linked juvenile retinoschisis affected approximately 0.4 in 10,000 people in the European Union (EU). This was equivalent to a total of around 20,000 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 509,000,000 (Eurostat 2013).

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What treatments are available?

At the time of designation, no satisfactory methods were authorised in the EU to treat X-linked juvenile retinoschisis.

How is this medicine expected to work?

The medicine is made up of a virus that contains normal copies of the gene responsible for producing retinoschisin. When injected into the patient's eyes, it is expected that the virus will carry this gene into retinal cells, so that they can produce retinoschisin. This is expected to enable retinal cells to work properly, thereby treating the symptoms of the disease.

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?

At the time of submission of the application for orphan designation, the evaluation of the effects of the medicine in experimental models was ongoing.

At the time of submission, no clinical trials with the medicine in patients with X-linked juvenile retinoschisis had been started.

At the time of submission, the medicine was not authorised anywhere in the EU for X-linked juvenile retinoschisis. Orphan designation of the medicine had been granted in the United States of America for X-linked juvenile retinoschisis.

In accordance with Regulation (EC) No 141/2000 of 16 December 1999, the COMP adopted a positive opinion on 6 February 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	Recombinant adeno-associated viral vector containing the human retinoschisin gene	Treatment of X-linked juvenile retinoschisis
Bulgarian	Рекомбинантен адено-асоцииран вирусен вектор, съдържащ човешкия ген ретиносхизин	Лечение на ювенилна Х-свързана ретиносхиза
Czech	Rekombinantní adeno-asociovaný virový vektor obsahující lidský gen retinoschisin	Léčba juvenilní retinoschízy vázané na chromozom X
Danish	Rekombinant adeno-associeret viral vektor der indeholder det humane retinoschisin-gen	Behandling af X-koblet juvenil retinoschisis
Dutch	Recombinant adeno-geassocieerde virale vector welke het humaan retinoschisin gen bevat	Behandeling van X-linked juviniele retinoschisis
Estonian	Rekombinantne adenoviirusega seotud viirusvektor, mis sisaldab inimese retinoschisin geeni	X-liitelise juveniilse retinoskiisi ravi
Finnish	Rekombinantti adeno-pohjainen virusvektori, joka sisältää ihmisen retinoschisin-geenin	X-linkitetyn nuoruusiän retinoskiisin hoito
French	Vecteur viral adéno-associé recombinant contenant le gène humain retinoschisin	Traitement du rétinoschisis juvénile lié à l'X
German	Rekombinanter Adeno-assoziierter viraler Vektor, der das menschliche Gen retinoschisin enthält	Behandlung der X-gebundenen juvenilen Retinoschisis
Greek	Ανασυνδυασμένος ιϊκός φορέας σχετιζόμενος με αδενοϊό, που περιέχει το ανθρώπινο γονίδιο της ρετινοσχισίνης	Θεραπεία της Χ-συνδεδεμένης νεανικής ρετινόσχισης
Hungarian	Rekombináns az emberi retinoschisin gént tartalmazó adeno-asszociált virus vektor	X-kromoszómához kötött juvenilis retinoschisis kezelése
Italian	Vettore virale ricombinante adeno-associato contenente il gene della retinoschisina umana	Trattamento della retinoschisi giovanile legata al cromosoma X
Latvian	Rekombinants, adenoasociētā vīrusa vektors, kas satur cilvēka retinošīzes gēnu	Ar X hromosomu saistītās juvenilās retinošīzes ārstēšana
Lithuanian	Rekombinantinis adeno-asocijuoto viruso vektorius, turintis žmogaus retinošizino geną	Su X susijusios juvenylinės retinošizės gydymas
Maltese	Vettur virali rikombinanti adeno-assoċjat li fih il-ġene retinoskisin uman	Kura tar-retinoskiżi taż-żogħżija marbuta mal-kromosoma X
Polish	Rekombinowany wektor adenowirusowy zawierający ludzki gen retynoschizyny	Leczenie młodzieńczego rozwarstwienia siatkówki sprzężonego z chromosomem X
Portuguese	Vetor viral recombinante adeno-associado, que contem o gene humano retinosquisante	Tratamento da retinosquise juvenil ligada ao cromosoma X

[1] At the time of designation

Language	Active ingredient	Indication
Romanian	Vector viral adeno-asociat recombinant, care conţine gena umană care codifică retinoschizina	Tratamentul retinoschizisului juvenil cu transmitere X-linkată
Slovak	Rekombinantný adeno-asociovaný vírusový vektor obsahujúci ľudský gén pre retinoschisín	Liečba juvenilnej retinoschízy viazanej na chromozóm X
Slovenian	Rekombinantni adenovirusni vektor z genom za humanim genom retinoshize	Zdravljenje z X-povezane juvenilne retinoshize
Spanish	Vector viral adenoasociado recombinante que contiene el gen humano de la retinosquisis	Tratamiento de la retinosquisis juvenil ligada al cromosoma X
Swedish	Rekombinant adeno-associerad viral vektor som innehåller den mänskliga retinoschisin genen	Behandling av X-bunden juvenil retinoschisis
Norwegian	Rekombinant adenoassosiert virusvektor som inneholder det humane retinoschisin-genet	Behandling av X-bundet juvenil retinoschisis
Icelandic	Raðbrigða adenó-tengd veiru ferja sem inniheldur manna retínoschisín gen	Meðferð á X-tengdu sjónurofi í börnum