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Committee for Orphan Medicinal Products

Public summary of opinion on orphan designation

Adenovirus-associated vector containing human *Fas-c* gene for the treatment of glioma

On 6 June 2012, orphan designation (EU/3/12/1002) was granted by the European Commission to Gregory Fryer Associates Ltd, United Kingdom, for adenovirus-associated vector containing human Fas-c gene for the treatment of glioma.

What is glioma?

Glioma is a type of brain tumour that affects the 'glial' cells (the cells that surround and support the nerve cells). Patients with glioma can have severe symptoms, but the types of symptoms experienced depend on where the tumour develops in the brain. Symptoms can include headaches, nausea (feeling sick), loss of appetite, vomiting, and changes in personality, mood, mental capacity and concentration. About a fifth of patients with glioma have seizures (fits) for months or years before the disease is diagnosed.

Glioma is a long-tem debilitating and life-threatening disease because of the severe damage to the brain that is associated with poor long-term survival.

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

At the time of designation, glioma affected not more than 2 in 10,000 people in the European Union (EU)*. This is equivalent to a total of not more than 101,000 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, several medicines were authorised for the treatment of glioma in the EU. Treatments for glioma included surgery, radiotherapy (treatment with radiation), and chemotherapy

*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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(medicines to treat cancer) to improve survival. Patients also received treatments for the symptoms of glioma, including corticosteroids to reduce pressure within the skull and medicines to prevent seizures.

The sponsor has provided sufficient information to show that the medicine might be of significant benefit for patients with glioma because it works in a different way to existing treatments and early studies show that it might improve the treatment of patients with this condition, particularly patients with a form of glioma called glioblastoma multiforme. 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?

Gliomas, like many solid tumours, rely on the growth of new blood vessels (angiogenesis) to obtain the nutrients that help tumour cells to grow and spread.

This medicine is an anti-angiogenic medicine (a medicine that stops the formation of new blood vessels). It is made up of a virus that contains a gene, called *Fas-c,* responsible for the production of a protein called Fas-c. The virus is expected to deliver copies of the *Fas-c* gene into cells in the body. As the *Fas-c* gene can only be activated in cells of the developing blood vessels, only the cells in the developing blood vessels will produce the Fas-c protein. The Fas-c protein is an engineered protein made of two parts: a part of a receptor called 'TNF receptor' to which a substance called TNF-alfa attaches, as well as a part of the Fas protein which activates cell death. When TNF-alfa attaches to the Fas-c protein, the Fas component of the protein is expected to cause the death of the developing blood vessels in gliomas. As a result, the medicine is expected to stop the formation of new blood vessels in glioma cells, which will prevent the growth of the tumour.

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 medicine have been evaluated in experimental models.

At the time of submission of the application for orphan designation, clinical trials with the medicine in patients with glioma were ongoing.

At the time of submission, the medicine was not authorised anywhere in the EU for glioma 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 April 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	Adenovirus-associated vector containing human Fas-c gene	Treatment of glioma
Bulgarian	Аденовирус-асоцииран вектор, съдържащ човешки Fas-c ген	Лечение на глиома
Czech	Adeno-asociovaný virový vektor obsahující lidský Fas-c gen	Léčba gliomů
Danish	Adenovirus associeret vektor indeholdende humant Fas-c gen	Behandling af gliom
Dutch	Adenovirus-geassociëerde vector welke humaan Fas-c gen bevat	Behandeling van glioma
Estonian	Adenoviirusega assotseerunud vektor, mis sisaldab inimese Fas-c geeni	Glioomi ravi
Finnish	Ihmisen FAS-siirtogeenin sisältävä adenovirus	Gliooman hoito
French	Adénovirus contenant le transgène humain FAS	Traitement des gliomes
German	Adenovirus-assoziierter Vektor, der das humane Fas-c Gen enthält	Behandlung von Gliomen
Greek	Αδενοϊός που περιέχει ανθρώπινο διαγονίδιο FAS	Θεραπεία του γλοιώματος
Hungarian	Humán FAS-c gént tartalmazó adenovirus-asszociált vektor	Glioma kezelése
Italian	Adenovirus contenente il gene FAS-c umano	Trattamento del glioma
Latvian	Cilvēka FAS transgēnu saturošs adenovīrusa asociētais vectors.	Gliomas ārstēšana
Lithuanian	Adenoviruso asocijuotas vektorius, pernešantis žmogaus Fas-c geną	Gliomos gydymas
Maltese	Vektor assoċjat mal-adenovirus li fih il-ġene Fas-c uman	Kura tal-glioma
Polish	Wektor adenowirusowy zawierający ludzki gen Fas-c	Leczenie glejaka
Portuguese	Vetor viral adeno-associado contendo o gene Faz-C humano	Tratamento do glioma
Romanian	Vector adenoviral care conţine transgena umană Fas	Tratamentul gliomului
Slovak	Adenovírus-asociovaný vektor obsahujúci ľudský FAS-c gén	Liečba gliómu
Slovenian	Adenovirus s človeškim transgenom FAS	Zdravljenje glioma
Spanish	Vector asociado a adenovirus que contiene el gen humano Fas-c	Tratamiento del glioma
Swedish	Adenovirus associerad vector innehållande den humana Fas-c genen	Behandling av gliom
Norwegian	Adenovirus med vektor som inneholder humant Fas-cgen	Behandling av gliom
Icelandic	Adenóveira sem inniheldur erfðabreytt FAS-gen úr mönnum	Meðferð á glíóma
Norwegian	Adenovirus med vektor som inneholder humant Fas-cgen	Behandling av gliom
Icelandic	Adenóveira sem inniheldur erfðabreytt FAS-gen úr mönnum	Meðferð á glíóma

[1] At the time of designation