



EUROPEAN MEDICINES AGENCY
SCIENCE MEDICINES HEALTH

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Committee for Orphan Medicinal Products

Public summary of opinion on orphan designation

Autologous ex-vivo-expanded leucocytes treated with 5-aza-2'-deoxycytidine for the treatment of glioma

On 13 November 2013, orphan designation (EU/3/13/1197) was granted by the European Commission to CytoVac A/S, Denmark, for autologous ex-vivo-expanded leucocytes treated with 5-aza-2'-deoxycytidine 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-term debilitating and life-threatening disease because of the severe damage to the brain, and 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 approximately 2.2 in 10,000 people in the European Union (EU). This was equivalent to a total of around 113,000 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 28), Norway, Iceland and Liechtenstein. This represents a population of 512,200,000 (Eurostat 2013).



(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 this medicine might be of significant benefit for patients with glioma because early studies show that it might improve the outcome of patients whose disease has come back after previous 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?

This medicine is made of cells of the immune system (the body's natural defences) that are taken from the patient. These cells are then grown outside the body and activated using a chemical called '5-aza-2'-deoxycytidine'. When injected back into the patient, these activated cells are expected to recognise the cancer cells as 'foreign' and stimulate the immune system to attack and kill the cancer cells.

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, 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 9 October 2013 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 languages¹, Norwegian and Icelandic

Language	Active ingredient	Indication
English	Autologous ex-vivo-expanded leucocytes treated with 5-aza-2'-deoxycytidine	Treatment of glioma
Bulgarian	Автоложни екс виво култивирани левкоцити третирани с 5-аза-2'деоксицитидин	Лечение на глиома
Czech	Autologní ex-vivo expandované leukocyty s 5-aza-2'-deoxycytidinem	Léčba gliomů
Croatian	Autologni ex-vivo umnoženi leukociti tretirani 5-aza-2'-deoksicitidinom	Liječenje glioma
Danish	Autolog ex-vivo-ekspanderede leucocytter behandlet med 5-aza-2'-deoxycytidin	Behandling af gliom
Dutch	Autologe ex-vivo geëxpandeerde leukocyten behandeld met 5-aza-2'-deoxycytidine	Behandeling van glioma
Estonian	Ex-vivo paljundatud autoloogsed leukotsüüdid ravitud 5-aza-2'-deoksütsütidiiniga	Glioomi ravi
Finnish	Autologiset, ex vivo kasvatetut leukosyytit, jotka on käsitelty 5-atsa-2'-deoksisytidiinillä	Gliooman hoito
French	Leucocytes autologues en prolifération ex vivo, traités par 5-aza-2'-déoxycytidine	Traitement des gliomes
German	Autologe ex-vivo expandierte mit 5-Aza-2'-Deoxycytidin behandelte Leukozyten	Behandlung von Gliomen
Greek	Αυτόλογα λευκοκύτταρα πολλαπλασιασμένα-ex vivo και επωασμένα με 5-αζα-2'- δεοξυκυτιδίνη	Θεραπεία του γλοιώματος
Hungarian	5-aza-2'-deoxycitidinnel kezelt, ex-vivo szaporított autolog leukociták	Glioma kezelése
Italian	Leucociti autologhi ex-vivo espansi e trattati con 5-aza-2'-deoxicitidina	Trattamento del glioma
Latvian	Autologi ex-vivo veidoti leikocīti, kas apstrādāti ar 5-aza-2'-deoksicitidīnu	Gliomas ārstēšana
Lithuanian	Autologiniai išskirti ex vivo leukocitai paveikti 5-aza-2'-deoksicitidinu	Gliomos gydymas
Maltese	Lewkoċiti awtologużi mwassa' ex vivo ittrattati b' 5-aza-2'-deoxycytidine	Kura tal-glioma
Polish	Autologiczne leukocyty poddane działaniu 5-aza-2'-deoksycytydyny, namnożone ex-vivo	Leczenie glejaka
Portuguese	Leucócitos autólogos expandidos ex-vivo e tratados com 5-aza-2'-desoxicitidina	Tratamento do glioma
Romanian	Leucocite autologe expandate ex-vivo tratate cu 5-aza-2'-deoxicitidină	Tratamentul gliomului
Slovak	Autológne ex-vivo expandované leukocyty ošetrené 5-aza-2-deoxycytidínom	Liečba gliómu

¹ At the time of designation

Language	Active ingredient	Indication
Slovenian	Autologni, ex vivo pridobljeni levkociti obdelani s 5-aza-2'-deoksicitidinom	Zdravljenje glioma
Spanish	Leucocitos autólogos expandidos ex-vivo tratados con 5-aza-2'-desoxicitidina	Tratamiento del glioma
Swedish	Autologa ex-vivo-expanderade leukocyter behandlade med 5-aza-2'-deoxycytidin	Behandling av gliom
Norwegian	Autologe ex-vivo-ekspanderte leukocytter behandlet med 5-aza-2'-deoxycytidin	Behandling av gliom
Icelandic	Samgena ex vivo-aukið hvít blóðkorn meðhöndluð með 5-aza-2'-deoxýcytidíni	Meðferð á glíóma