27 March 2017
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Public summary of opinion on orphan designation

Iodine (^{131}I) murine IgG1 monoclonal antibody against CD276 for the treatment of neuroblastoma

On 27 February 2017, orphan designation (EU/3/17/1839) was granted by the European Commission to Y-mAbs Therapeutics A/S, Denmark, for iodine (^{131}I) murine IgG1 monoclonal antibody against CD276 (also known as ^{131}I-mu8H9) for the treatment of neuroblastoma.

What is neuroblastoma?

Neuroblastoma is a cancer of certain nerve cells which is usually seen as a lump in the abdomen or around the spine. Symptoms may include weakness, bone pain, loss of appetite and fever.

Neuroblastoma is the most common solid tumour outside the brain in children. In many cases it is present at birth but is diagnosed later when the cancer has spread to other parts of the body and the child begins to show symptoms of the disease.

Neuroblastoma is a long-term debilitating and life-threatening disease that is associated with poor long-term survival.

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

At the time of designation, neuroblastoma affected approximately 0.2 in 10,000 people in the European Union (EU). This was equivalent to a total of around 10,000 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 methods were authorised in the EU for the treatment of neuroblastoma, including surgery, chemotherapy (medicines to treat cancer) and radiotherapy (treatment with radiation). The medicine Unituxin (dinutuximab) was approved for the treatment of children at high risk of the disease returning.

*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 515,700,000 (Eurostat 2017).

30 Churchill Place ● Canary Wharf ● London E14 5EU ● United Kingdom
Telephone +44 (0)20 3660 6000 **Facsimile** +44 (0)20 3660 5555
Send a question via our website www.ema.europa.eu/contact

The sponsor has provided sufficient information to show that this medicine might be of significant benefit for patients with neuroblastoma because early results in patients with neuroblastoma that has spread or not responded to previous treatments suggest that it can improve survival. 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 medicine consists of an antibody that has been designed to recognise and attach to a protein called CD276, which is produced in large amounts on the surface of neuroblastoma cells but is not produced in significant amounts by normal tissue. This antibody is linked to radioactive iodine (iodine-131) that produces low-level radiation with a short range.

The medicine is given into the fluid that surrounds the brain and spinal cord, enabling it to reach disease that has spread into the nervous system. When the medicine attaches to cancer cells, radiation from the iodine damages their DNA, resulting in death of the cell. This helps shrink the tumour and control the disease.

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 neuroblastoma were ongoing.

At the time of submission, this medicine was not authorised anywhere in the EU for neuroblastoma. Orphan designation of the medicine had been granted in the United States for this condition.

In accordance with Regulation (EC) No 141/2000 of 16 December 1999, the COMP adopted a positive opinion on 19 January 2017 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:

Contact details of the current sponsor for this orphan designation can be found on EMA website, on the medicine's rare disease designations page.

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	Iodine (^{131}I) murine IgG1 monoclonal antibody against CD276	Treatment of neuroblastoma
Bulgarian	Мише IgG1 моноклонално антитяло срещу CD276, свързано с йод (^{131}I)	Лечение на невробластом
Croatian	Jodom (^{131}I) obilježeno mišje monoklonsko protutijelo IgG1 protiv CD276	Liječenje neuroblastoma
Czech	Myší monoklonální protilátka IgG1 proti CD276 značná jódem (^{131}I)	Léčba neuroblastomu
Danish	^{131}I (Jod-131) murint monoklonalt IgG1 antistof mod CD276	Behandling af neuroblastom
Dutch	Jodium (^{131}I) murien IgG1 monoklonaal antilichaam tegen CD276	Behandeling van neuroblastoom
Estonian	CD276-vastane joodiga (^{131}I) märgistatud hiire IgG1 monoklonaalne antikeha	Neuroblastoomi ravi
Finnish	Jodilla (^{131}I) merkitty hiiren IgG1-luokan monoklonaalinen vasta-aine CD276:a vastaan	Neuroblastooman hoito
French	Anticorps monoclonal murin de type IgG1, couplé à l'iode (^{131}I), dirigé contre CD276	Traitement du neuroblastome
German	Jod (^{131}I)-markierter muriner monoklonaler IgG1-Antikörper gegen CD276	Behandlung des Neuroblastoms
Greek	Μονοκλωνικό αντίσωμα IgG1 επίμυος έναντι της CD276 ραδιοσημασμένο με ιώδιο (^{131}I)	Θεραπεία του νευροβλαστώματος
Hungarian	CD276 elleni jód (^{131}I) rágcsáló IgG1 monoklonális antitest	Neuroblastoma kezelése
Italian	Anticorpo monoclonale murino IgG1 marcato con iodio (^{131}I) contro CD276	Trattamento del neuroblastoma
Latvian	Joda (^{131}I) peļu IgG1 monoklonālā antiviela pret CD276	Neiroblastomas ārstēšana
Lithuanian	Jodu (^{131}I) žymėtas pelės IgG1 monokloninis antikūnas prieš CD276	Neuroblastomos gydymas
Maltese	Antikorp monoklonali IgG1 li ġej mill-ġrieden tikkettat b'jodju (^{131}I) kontra CD276	Kura tan-newroblastoma
Polish	Mysie przeciwciało monoklonalne IgG1 sprzężone z jodem (^{131}I) skierowane przeciw CD276	Leczenie nerwiaka płodowego
Portuguese	Anticorpo monoclonal IgG1 murino marcado com iodo (^{131}I) anti-CD276	Tratamento do neuroblastoma
Romanian	Anticorp monoclonal IgG1 murin anti-CD276, marcat cu iod (I^{131})	Tratamentul neuroblastomului

[1] At the time of designation

Language	Active ingredient	Indication
Slovak	Myšia monoklonálna protilátka IgG1 proti CD276 označená jódom (^{131}I)	Liečba neuroblastómu
Slovenian	Z radioaktivnim jodom (^{131}I) označeno mišje monoklonsko protitelo IgG1 proti CD276	Zdravljenje nevroblastoma
Spanish	Anticuerpo monoclonal IgG1 murino marcado con yodo-131 (^{131}I) contra CD276	Tratamiento del neuroblastoma
Swedish	Jod (^{131}I) murin IgG1 monoklonal antikropp mot CD276	Behandling av neuroblastom
Norwegian	Jod (^{131}I) murint monoklonalt IgG1 antistoff mot CD276	Behandling av nevroblastom
Icelandic	^{131} I (joð-131) músa IgG1 einstofna mótefni við CD276	Meðferð við taugakímfrumuæxli