

7 November 2016
EMA/629732/2016
Committee for Orphan Medicinal Products

Public summary of opinion on orphan designation

P-ethoxy growth factor receptor-bound protein 2 antisense oligonucleotide for the treatment of acute myeloid leukaemia

On 14 October 2016, orphan designation (EU/3/16/1758) was granted by the European Commission to Clinical Network Services (UK) Ltd, United Kingdom, for P-ethoxy growth factor receptor-bound protein 2 antisense oligonucleotide for the treatment of acute myeloid leukaemia.

What is acute myeloid leukaemia?

Acute myeloid leukaemia (AML) is a cancer of the white blood cells (cells that fight against infections). In patients with AML, the bone marrow (the spongy tissue inside the large bones, where blood cells are produced) produces large numbers of abnormal, immature white blood cells. These abnormal cells quickly build up in large numbers in the bone marrow and are found in the blood.

AML is a long-term debilitating and life-threatening disease because these abnormal immature cells take the place of the normal blood cells, causing bleeding episodes, blood clots and a reduced ability to fight infections.

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

At the time of designation, AML affected approximately 1.5 in 10,000 people in the European Union (EU). This was equivalent to a total of around 77,000 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?

Treatment for AML is complex and depends on a number of factors including the extent of the disease, whether it has been treated before, and the patient's age, symptoms and general state of health. At the time of designation, the main treatments for AML were chemotherapy (medicines to treat cancer)

^{*}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 513,700,000 (Eurostat 2016).

and haematopoietic (blood) stem-cell transplantation (where the patient's bone marrow is replaced by stem cells to form new bone marrow that can produce healthy blood cells).

The sponsor has provided sufficient information to show that this medicine might be of significant benefit for patients with AML. Early studies showed a favourable response when the medicine was used in combination with a currently authorised product in patients whose disease had come back despite 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 an 'antisense oligonucleotide', a small strand of synthetic genetic material. It has been designed to attach to the gene for the protein growth factor receptor-bound protein 2 (Grb2), thereby blocking its production. Grb2 is involved in the uncontrolled growth of cancer cells including AML cells. By blocking the production of Grb2, the medicine is expected to stop the cancer cells growing, and thus slow down the progression of 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 AML were ongoing.

At the time of submission, the medicine was not authorised anywhere in the EU for AML. 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 8 September 2016 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:

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 languages¹, Norwegian and Icelandic

Language	Active ingredient	Indication
English	P-ethoxy growth factor receptor-bound protein 2 antisense oligonucleotide	Treatment of acute myeloid leukaemia
Bulgarian	Антисенс олигонуклеотид насочен към протеин 2 свързан с Р-етокси растежен фактор рецептор	Лечение на остра миелоидна левкемия
Croatian	P-etoksi protein 2 protusmjerni oligonukleotid vezan za receptor čimbenika rasta	Liječenje akutne mijeloične leukemije
Czech	P-ethoxy růstový faktor vázající antisense oligonukleotid proteinu 2	Léčba akutní myeloidní leukémie
Danish	P-etoxy vækstfaktor receptor-bundet protein 2 antisense oligonukleotid	Behandling af akut myeloid leukæmi
Dutch	P-ethoxy groeifactor receptor-gebonden proteïne 2 antisense oligonucleotide	Behandeling van acute myeloïde leukemie
Estonian	P-etoksüül-kasvufaktorireseptorit siduva valgu 2 antisense oligonukleotiidi	Akuutse müeloidse leukeemia ravi
Finnish	P-etoksi kasvutekijäreseptoriin sitoutunut proteiini 2 antisense- oligonukleotidi	Akuutin myelooisen leukemian hoito
French	Oligonucléotide anti-sens protéine 2 lié au récepteur du facteur de croissance P-éthoxy	Traitement de la leucémie aiguë myéloïde
German	Antisense Oligonukleotid gegen P-ethoxy growth factor receptor-bound protein 2	Behandlung der akuten myeloischen Leukämie
Greek	Ρ-αιθοξύ αντινοσηματικό ολιγονουκλεοτίδιο έναντι της προσδεμένης σε αυξητικό παράγοντα πρωτεΐνης 2 (Grb2)	Θεραπεία της οξείας μυελοειδούς λευχαιμίας
Hungarian	P-ethoxy növekedési faktor receptorhoz kötött protein 2 antisense oligonukleotid	Akut myeloid leukaemia kezelése
Italian	P-éthoxy oligonucleotide anti-senso legato al réceptore del fattore di crescita proteina 2 (Grb2)	Trattamento della leucemia mieloide acuta
Latvian	P-etoksi augšanas faktora receptora saistītā proteīna 2 antisenses oligonukleotīds	Akūtas mieloleikozes ārstēšana
Lithuanian	Su P-etoksi augimo faktoriumi susieto baltymo 2 priešprasmis oligonukleotidas	Ūmios mieloleukozės gydymas
Maltese	Oligonukleotide antisens ta' proteina 2 marbuta ma' riċettur P-ethoxy għall-fattur tat-tkabbir	Kura tal-lewkimja mjelojda akuta
Polish	Antysensowny P-etoksy oligonukleotyd komplementarny dla genu białka wiążącego receptor czynnika wzrostu 2	Leczenie ostrej białaczki szpikowej
Portuguese	P-etoxi oligonucleótido anti-senso - Recetor do fator de crescimento da proteína 2 (Grb2)	Tratamento da leucémia mielóide aguda
Romanian	Oligonucleotid antisens proteina 2 legatã de	Tratamentul leucemiei mieloide acute

¹ At the time of designation

Language	Active ingredient	Indication
	receptorul P-etoxi al factorului de creștere	
Slovak	Antisense oligonukleotid P-etoxy receptora rastového faktora viazaného s proteínom 2	Liečba akútnej myeloickej leukémie
Slovenian	P-etoksi protein 2 protismerni oligonukleotid vezan na receptor rastnega faktorja	Zdravljenje akutne mieloične levkemije
Spanish	Proteína 2 Oligonuceótido antisentido Liada al receptor factor de crecimiento etoxi-P	Tratamiento de la leucemia mieloide aguda
Swedish	P-ethoxy tillväxtfaktor receptorbundet protein 2 anitsensoligonukleotid	Behandling av akut myeloisk leukemi
Norwegian	Protein 2 antisense oligonukleotid bundet til P- etoksy vekstfaktorreseptor	Behandling av akutt myelogen leukemi
Icelandic	P-ethoxý vaxtarþáttar viðtakbundið protein 2 antisense ólígónúkleótið	Meðferð við bráðu kyrningahvítblæði