13 November 2015
EMA/COMP/603715/2015
Committee for Orphan Medicinal Products

Public summary of opinion on orphan designation

Recombinant human interleukin-3 truncated diphtheria toxin fusion protein for the treatment of acute myeloid leukaemia

On 9 October 2015, orphan designation (EU/3/15/1563) was granted by the European Commission to Spector Consulting SAS, France, for recombinant human interleukin-3 truncated diphtheria toxin fusion protein (also known as SL-401) 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 reducing the patient's ability to fight infections.

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

At the time of designation, AML affected less than 1 in 10,000 people in the European Union (EU). This was equivalent to a total of fewer than 51,000 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 512,900,000 (Eurostat 2015).

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and haematopoietic (blood) stem-cell transplantation (a complex procedure where the patient receives stem cells from a matched donor to help restore the bone marrow).

The sponsor has provided sufficient information to show that the medicine might be of significant benefit for patients with AML, with data from early studies showing that patients whose disease had come back or who did not respond to previous treatment responded to treatment with this medicine. 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 contains a toxin (a substance which is poisonous for cells) called diphtheria toxin, which has been 'fused' to a protein called 'interleukin-3'. Although it is not fully clear how the medicine works, it is expected that the interleukin-3 will attach to interleukin-3 receptors, which are thought to be found at high levels on the surface of AML cells. Once attached to AML cells, the medicine is expected to be taken up by the cells. The toxin would then be released inside AML cells, thus killing them.

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 the treatment of blastic plasmacytoid dendritic cell neoplasm and for the treatment of AML.

In accordance with Regulation (EC) No 141/2000 of 16 December 1999, the COMP adopted a positive opinion on 3 September 2015 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

For details of the current sponsor of the orphan designation please refer to the information on the main web page of this Public Summary of Opinion.

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 human interleukin-3 truncated diphtheria toxin fusion protein	Treatment of acute myeloid leukaemia
Bulgarian	Рекомбинантен фузионен протеин свързващ човешки интерлевкин-3 и скъсен дифтериен токсин	Лечение на остра миелоидна левкемия
Croatian	Fuzijski protein rekombinantnog ljudskog interleukina-3 i skraćenog difterijskog toksina	Liječenje akutne mijeloične leukemije
Czech	Rekombinantní fúzní protein lidského interleukinu-3 a zkráceného difterického toxinu	Léčba akutní myeloidní leukémie
Danish	Rekombinant humant interleukin-3 afkortet difteritoksin fusionsprotein	Behandling af akut myeloid leukæmi
Dutch	Recombinant humaan interleukine-3 getrunceerd difterietoxine fusieproteïne	Behandeling van acute myeloïde leukemie
Estonian	Rekombinantne inimese interleukiin-3 lühendatud difteeriatoksiini fusioonvalk	Akuutse müeloidse leukeemia ravi
Finnish	Rekombinantti ihmisen interleukiini-3:n ja katkaistun difteriatoksiinin fuusioproteiini	Akuutin myelooisen leukemian hoito
French	Protéine de fusion tronquée de toxine diphtérique-interleukine-3 humaine recombinante	Traitement de la leucémie aiguë myéloïde
German	Rekombinantes humanes Fusionsprotein aus humanem Interleukin-3 und verkürztem Diphtherietoxin	Behandlung der akuten myeloischen Leukämie
Greek	Ανασυνδυασμένη ανθρώπεια ιντερλευκίνη-3 κολοβωμένη πρωτεΐνη σύντηξης της τοξίνης της διφθερίτιδας	Θεραπεία της οξείας μυελοειδούς λευχαιμίας
Hungarian	Rekombináns humán interleukin-3 csonkított diftéria-toxin fúziós fehérje	Akut myeloid leukaemia kezelése
Italian	Proteina ricombinante umana di fusione tossina difterica troncata-interleuchina 3	Trattamento della leucemia mieloide acuta
Latvian	Rekombinants cilvēka interleikīna-3 un nepilnīga difterijas toksīna hibrīdproteīns	Akūtas mieloleikozes ārstēšana
Lithuanian	Rekombinantinio žmogaus interleukino-3 ir sutrumpinto difterijos toksino baltymo lydinys	Ūmios mieloleukozės gydymas
Maltese	Proteina tal-fużjoni rikombinanti magħmula minn *interleukin* 3 uman u tossina difterika maqtugħa	Kura tal-lewkimja mjelojda akuta
Polish	Rekombinowane białko fuzyjne utworzone z ludzkiej interleukiny-3 i toksyny błoniczej o skróconym łańcuchu	Leczenie ostrej białaczki szpikowej
Portuguese	Proteína de fusão recombinante de interleucina-3 humana e toxina diftérica truncada	Tratamento da leucémia mielóide aguda
Romanian	Proteina recombinantă de fuziune între toxina difterică truncheată şi interleukina 3 umană	Tratamentul leucemiei mieloide acute
Slovak	Fúzny proteín vytvorený spojením rekombinantného ľudského interleukínu-3 so štiepeným difterickým toxínom	Liečba akútnej myeloickej leukémie

[1] At the time of designation

Language	Active ingredient	Indication
Slovenian	Rekombinantni fuzijski protein, sestavljen iz humanega interlevkina 3 in fragmentov toksina davice	Zdravljenje akutne mieloične levkemije
Spanish	Proteína recombinante fusión de la interleuquina-3 humana y toxina diftérica truncada	Tratamiento de la leucemia mieloide aguda
Swedish	Rekombinant fusionsprotein av humant interleukin-3 och trunkerat difteritoxin	Behandling av akut myeloisk leukemi
Norwegian	Rekombinant humant interleukin-3 til avkortet difteritoksin-fusjonsprotein	Behandling av akutt myelogen leukemi
Icelandic	Raðbrigða manna interleukin-3 stytt barnaveikis eitursamrunaprótein	Meðferð við bráðu kyrningahvítblæði