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EMA/COMP/698904/2015
Committee for Orphan Medicinal Products

Public summary of opinion on orphan designation

Recombinant human interleukin-3 truncated diphtheria toxin fusion protein for treatment of blastic plasmacytoid dendritic cell neoplasm

On 11 November 2015, orphan designation (EU/3/15/1567) 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 blastic plasmacytoid dendritic cell neoplasm.

What is blastic plasmacytoid dendritic cell neoplasm?

Blastic plasmacytoid dendritic cell neoplasm is an aggressive type of blood cancer in which the bone marrow (the spongy tissue inside the large bones, where blood cells are produced) produces large numbers of immature white blood cells called 'plasmacytoid dendritic cells'. These may build up in the bone marrow and take the place of normal blood cells. Most patients develop non-itchy damaged areas in the skin, which often look like bruises or nodules. The disease may also cause enlargement of the spleen or liver and a reduction of the number of circulating blood cells.

Blastic plasmacytoid dendritic cell neoplasm is a life-threatening disease that is associated with poor overall survival.

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

At the time of designation, blastic plasmacytoid dendritic cell neoplasm affected approximately 1.2 in 10,000 people in the European Union (EU). This was equivalent to a total of around 62,000 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).

[*]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).

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

What treatments are available?

At the time of designation, no satisfactory methods were authorised in the EU for the treatment of blastic plasmacytoid dendritic cell neoplasm. Patients often received radiotherapy and medicines authorised for other types of blood cancers. Some patients were also given stem cell transplantation, a complex procedure where the patient receives stem cells from a matched donor to help restore the bone marrow.

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 is it not fully clear how the medicine works, it is expected that the interleukin-3 will attach to interleukin-3 receptors, which are found at high levels on the surface of some cancer cells. Once attached to cancer cells, the medicine is expected to be taken up by the cells. The toxin would then be released inside cancer 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 blastic plasmacytoid dendritic cell neoplasm were ongoing.

At the time of submission, the medicine was not authorised anywhere in the EU for blastic plasmacytoid dendritic cell neoplasm. 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 October 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

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	Recombinant human interleukin-3 truncated diphtheria toxin fusion protein	Treatment of blastic plasmacytoid dendritic cell neoplasm
Bulgarian	Фузионен протеин, състоящ се от рекомбинантен човешки интерлевкин-3 и скъсен дифтериен токсин	Лечение на неоплазма с бластни плазмоцитоидни дендритни клетки
Croatian	Fuzijski protein kojeg čini rekombinantni ljudski interleukin-3 vezan na skraćeni difterijski toksin	Liječenje blastične novotvorine plazmacitodnih dendritičnih stanica
Czech	Fúzní protein rekombinantního lidského interleukinu-3 a zkráceného difterického toxinu	Léčba nádorů z blastických plasmocytoidních dendritických buněk
Danish	Rekombinant humant interleukin-3 trunkeret difteritoksin fusionsprotein	Behandling af blastisk plasmacytoid dendritisk celleneoplasi
Dutch	Recombinant humaan interleukine-3 getrunceerd difterietoxine fusieproteïne	Behandeling van blastair plasmacytoïd dendritische cel neoplasma
Estonian	Rekombinantse inimese interleukiin-3 ja lühendatud difteeriatoksiini fusioonvalk	Blastsete plasmatsütoidsete dendriitrakkudega kasvaja ravi
Finnish	Rekombinantti ihmisen interleukiini-3:n ja katkaistun difteriatoksiinin fuusioproteiini	Blastisen plasmasytoidisen dendriittisolukasvaimen hoito
French	Protéine de fusion tronquée de toxine diphtérique-interleukine-3 humaine recombinante	Traitement de la tumeur à cellules dendritiques plasmacytoïdes blastiques
German	Fusionsprotein aus rekombinantem humanem Interleukin-3 und verkürztem Diphtherietoxin	Behandlung von blastischer plasmazytoider dendritischer Zell-Neoplasie
Greek	Ανασυνδυασμένη πρωτεΐνη σύντηξης αποτελούμενη από ανθρώπινη συντμημένη ιντερλευκίνη-3 και διφθεριτιδική τοξίνη	Θεραπεία νεοπλάσματος από βλαστικά πλασματοκυτταροειδή δενδριτικά κύτταρα
Hungarian	Rekombináns humán interleukin-3 és csonkított diphteria toxin fúziós fehérjéje	Plazmacitoid dendritikus blastsejtes tumor kezelése
Italian	Proteina ricombinante umana di fusione fra tossina difterica troncata ed interleuchina 3	Trattamento della neoplasia a cellule dendritiche plasmacitoidi blastiche
Latvian	Rekombinētais cilvēka interleikīna-3 un difterijas toksīna nošķeltais hibrīdproteīns	Blastisko plazmacitoīdo dendrītu šūnu audzēja ārstēšana
Lithuanian	Rekombinantinis žmogaus interleukino-3 ir sutrumpintos difterijos toksino formos suliejimo baltymas	Blastinių plazmacitoidinių dendritinių ląstelių neoplazmų gydymas
Maltese	Proteina tal-fużjoni rikombinanti magħmula minn *interleukin* 3 uman u tossina difterika maqtugħa	Kura ta' neoplasma taċ-ċelloli dendritiċi plasmaċitojde blastiċi

[1] At the time of designation

Language	Active ingredient	Indication
Polish	Rekombinowane białko fuzyjne utworzone z ludzkiej interleukiny-3 i toksyny błoniczej o skróconym łańcuchu	Leczenie nowotworu blastycznych plazmacytoidalnych komórek dendrytycznych
Portuguese	Proteína de fusão recombinante humana da toxina da difteria truncada com interleucina-3	Tratamento da neoplasia blástica de células dendríticas plasmacitoides
Romanian	Proteina recombinantă de fuziune între toxina difterică procesată şi interleukina umană 3	Tratamentul neoplasmului cu celule dendritice plasmacitoide blastice
Slovak	Fúzny proteín vytvorený spojením rekombinantného ľudského interleukínu-3 so štiepeným difterickým toxínom	Liečba neoplázie z blastických plazmocytoidných dendritických buniek
Slovenian	Rekombinantni fuzijski protein, sestavljen iz humanega interlevkina-3 in dela toksina davice	Zdravljenje neoplazme blastnih plazmacitoidnih dendritičnih celic
Spanish	Proteína truncada de fusión recombinante de fragmentos de la toxina de la difteria y secuencias de interleucina-3 humana	Tratamiento de neoplasia de células blásticas dendríticas plasmocitoides
Swedish	Rekombinant fusionsprotein av humant interleukin-3 och trunkerat difteritoxin	Behandling av blastisk plasmacytoid dendritisk cellneoplasi
Norwegian	Rekombinant humant interleukin-3 til avkortet difteritoksin-fusjonsprotein	Behandling av blastisk plasmacytoid dendrittisk celle-neoplasi
Icelandic	Raðbrigða manna barnaveikiseiturs-samrunaprótein stýft með hvítfrumuboða-3	Meðferð við griplu æxlisvexti í plasmakímfrumum