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Committee for Orphan Medicinal Products

Public summary of opinion on orphan designation

Autologous T cells transduced with retroviral vector encoding an anti-CD19 CD28/CD3-zeta chimeric antigen receptor for the treatment of chronic lymphocytic leukaemia / small lymphocytic lymphoma

On 11 November 2015, orphan designation (EU/3/15/1572) was granted by the European Commission to Kite Pharma UK, Ltd, United Kingdom, for autologous T cells transduced with retroviral vector encoding an anti-CD19 CD28/CD3-zeta chimeric antigen receptor for the treatment of chronic lymphocytic leukaemia / small lymphocytic lymphoma.

What is chronic lymphocytic leukaemia / small lymphocytic lymphoma?

Chronic lymphocytic leukaemia (CLL) is cancer of a type of white blood cell called B lymphocytes or B cells. In this disease, the B cells multiply too quickly and live for too long, so that there are too many of them circulating in the blood. The cancerous B cells look normal, but they are not fully developed and do not work properly. Over time, the cancer cells replace the normal white cells, red cells and platelets in the bone marrow (the spongy tissue inside the large bones in the body, where blood cells are produced).

The disease known as 'small lymphocytic lymphoma' (SLL) is the same disease as CLL. The name SLL is used when the cancer cells are located mainly in the lymph nodes.

CLL/SLL is the most common type of leukaemia and mainly affects older people. It is rare in people under the age of 40 years. CLL/SLL is a long-term debilitating and life-threatening disease because some patients develop severe infections.

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

At the time of designation, CLL/SLL affected approximately 4.9 in 10,000 people in the European Union (EU). This was equivalent to a total of around 251,000 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).

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What treatments are available?

Treatment for CLL/SLL 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. Patients whose CLL/SLL is not causing any symptoms or is getting worse only very slowly may not need treatment. Treatment for CLL/SLL is started only if symptoms become troublesome. At the time of designation, the main treatment for CLL/SLL was chemotherapy (medicines to treat cancer).

The sponsor has provided sufficient information to show that this medicine might be of significant benefit for patients with CLL/SLL because early studies showed that patients whose disease had come back after previous treatment or 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?

The abnormal B cells in patients with CLL/SLL produce a protein on their surface called CD19.

This medicine is made up of immune cells (called T cells) which are taken from the patient and modified in the laboratory with a virus that carries a gene into the T cells so that they can recognise and attach to CD19. The modified T cells are then given back to the patient, where they are expected to attach to CD19 on the cancer cells and kill them. These T cells are also expected to activate other T cells from the patient to act against the cancer cells.

The type of virus used in this medicine ('retrovirus') is modified in order not to cause disease in humans.

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, a clinical trial with the medicine including patients with CLL/SLL was ongoing.

At the time of submission, the medicine was not authorised anywhere in the EU for CLL/SLL 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 8 October 2015 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 languages[1], Norwegian and Icelandic

Language	Active ingredient	Indication
English	Autologous T cells transduced with retroviral vector encoding an anti-CD19 CD28/CD3-zeta chimeric antigen receptor	Treatment of chronic lymphocytic leukaemia/small lymphocytic lymphoma
Bulgarian	Автоложни Т клетки, трансдуцирани с ретровирусен вектор, кодиращ химеричен анти-CD19 CD28/CD3-дзета антигенен рецептор	Лечение на хронична лимфоцитна левкемия / Дребноклетъчен лимфоцитен лимфом
Croatian	Autologne T-stanice transducirane retrovirusnim vektorom koji kodira za kimerični antigenski receptor CD28/CD3-zeta usmjeren protiv CD19	Liječenje kronične limfocitne leukemije / limfoma malih limfocita
Czech	Autologní T buňky transdukované retrovirovým vektorem kódujícím anti-CD19 chimérický antigenní receptor odvozený z řetězce CD28/CD3 zeta	Léčba chronické lymfatické leukémie/lymfom z malých lymfocytů
Danish	Autologe T-celler transduceret med retroviral vektor, der koder en anti-CD19 kimær antigenreceptor udledt af CD28/zetakæde CD3	Behandling af kronisk lymfatisk leukæmi/ Småcellet lymfocytisk lymfom
Dutch	Autologe T-cellen getransduceerd met een retrovirale vector die voor een anti-CD19 chimere antigeenreceptor afgeleid van CD28/CD3-zeta codeert	Behandeling van chronische lymfocytaire leukemie/ kleincellig lymfocytair lymfoom
Estonian	Autoloogsed T-rakud, mida on transdutseeritud retroviirusvektoriga, mis kodeerib CD19-vastast CD28/CD3 tseetaahelaga kimäärse antigeeni retseptorit	Kroonilise lümfoidleukeemia ja väikerakk-lümfotsüütlümfoomi ravi
Finnish	Autologiset T-solut, joihin on retrovirusvektorin avulla istutettu anti-CD19 CD28/CD3 zeta-kimeerisen antigeenireseptorin koodi	Kroonisen lymfaattisen leukemian japienilymfosyyttisen lymfooman hoito
French	Lymphocytes T autologues transduits par un vecteur rétroviral codant pour un récepteur antigénique chimérique anti-CD19 dérivé de CD3/CD28 zêta	Traitement de la leucémie lymphoïde chronique/du lymphome lymphocytaire à petites cellules
German	Autologe T-Zellen, die mit einem retroviralen Vektor transduziert werden, der einen von CD28/CD3-zeta abgeleiteten chimären Anti-CD19-Antigenrezeptor kodiert	Behandlung der chronischen lymphatischen Leukämie/des kleinzelligen lymphozytischen Lymphoms

[1] At the time of designation

Language	Active ingredient	Indication
Greek	Αυτόλογα Τ-κύτταρα διαμολυσμένα με ρετροϊικό φορέα, ο οποίος κωδικοποιεί έναν αντι-CD19 χιμαιρικό CD28/CD3-ζ αντιγονικό υποδοχέα	Θεραπεία της χρόνιας λεμφοκυτταρικής λευχαιμίας/ του Λεμφώματος από Μικρά Λεμφοκύτταρα
Hungarian	Anti-CD19 CD28/CD3 zéta kiméra antigén receptort kódoló retrovírus vektorral transzdukált autológ T-sejtek	Krónikus lymphoid -leukaemia/kissejtes lymphocytás lymphoma kezelése
Italian	Cellule T autologhe trasdotte con vettore retrovirale che codifica per un recettore chimerico dell'antigene anti-CD19 derivato da CD28/CD3 zeta	Trattamento della leucemia linfocitica cronica/ linfoma a piccoli linfociti
Latvian	Autologas T šūnas, transducētas ar retrovirālu vektoru, kas kodē himērisku anti-CD19 CD28/CD3 zeta antigēna receptoru	Hroniskas limfoleikozes/mazo limfocītu limfomas ārstēšana
Lithuanian	Autologinės T ląstelės, transdukuotos su retrovirusiniu vektoriumi, koduojančiu anti-CD19 CD28/CD3 zeta chimerinio antigeno receptorių	Lėtinės limfocitinės leukemijos/ smulkių limfocitų limfomos gydymas
Maltese	Ċelluli T awtologużi trasformati permezz ta' vettur retrotivirali li jikkodifika riċettur antiġeniku kimeriku kontra CD19 assoċjat ma' CD28/CD3 żeta	Kura tal-lewkimja limfoċitika kronika/limfoma limfoċitika żgħira
Polish	Autologiczne limfocyty T transdukowane wektorem retrowirusowym kodującym chimeryczne receptory antygenowe przeciwciał anty-CD19 pochodzących z łańcucha CD28/CD3 zeta	Leczenie przewlekłej białaczki limfatycznej/chłoniaka z małych limfocytów
Portuguese	Células T autólogas transduzidas com um vetor retroviral codificando um recetor antigénico quimérico anti-CD19 CD28/CD3 zeta	Tratamento da leucemia linfocítica crónica/linfoma de pequenos linfócitos
Romanian	Celule T autologe transduse cu un vector retroviral ce codifică un receptor chimeric al antigenelor anti-CD19 si CD28/CD3 zeta	Tratamentul leucemiei limfoide cronice / limfomului limfocitar cu celule mici
Slovak	Autológne T bunky transdukované retrovírusovým vektorom kódujúcim chimérický antigénový receptor anti- CD19 a CD28/CD3 zeta	Liečba chronickej lymfocytovej leukémie / malobunkového lymfocytového lymfómu
Slovenian	Avtologne celice T, transducirane z retrovirusnim vektorjem, ki kodira himerni antigenski receptor anti-CD19 CD28/CD3	Zdravljenje kronične limfatične levkemije / drobnoceličnega limfocitnega limfoma
Spanish	Células T autólogas transducidas con un vector retroviral que codifica un receptor quimérico de antígeno anti-CD19 derivado de CD28/CD3 zeta	Tratamiento de la leucemia linfocítica crónica linfoma linfocítico pequeño

Language	Active ingredient	Indication
Swedish	Autologa T-celler transducerade med en retroviral vektor som kodar för en CD19-specifik chimär antigenreceptor från CD28/CD3-zetakedjan	Behandling av kronisk lymfatisk leukemi/småcelligt lymfocytärt lymfom
Norwegian	Autologe T-celler transdusert med retroviral vektor som koder for en anti-CD19 CD28/CD3 zeta kimær antigenreseptor	Behandling av kronisk lymfatisk leukemi / småcellet lymfocytært lymfom
Icelandic	Samgena T-frumur, umbreyttar með retróveiruferju, sem kóðar fyrir blendingsmótefnavakaviðtaka gegn CD19 úr CD28/CD3-zetakeðju	Meðferð á langvinnu eitilfrumuhvítblæði/ smáeitilfrumu eitlakrabbameini