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Committee for Orphan Medicinal Products

Public summary of opinion on orphan designation

Autologous Epstein-Barr virus specific T cells derived from peripheral blood mononuclear cells, expanded ex vivo for the treatment of post-transplant lymphoproliferative disorder

On 14 July 2016, orphan designation (EU/3/16/1696) was granted by the European Commission to Cell Medica Ltd., United Kingdom, for autologous Epstein-Barr virus specific T cells derived from peripheral blood mononuclear cells, expanded ex vivo for the treatment of post-transplant lymphoproliferative disorder.

What is post-transplant lymphoproliferative disorder?

Post-transplant lymphoproliferative disorder is a cancer of a type of white blood cell called lymphocytes that occurs after transplantation. Following a transplant, patients receive medicines that weaken their immune system (the body's natural defences) to prevent rejection of the transplant. However, a weakened immune system also makes patients vulnerable to infection with viruses such as the Epstein-Barr virus. When the Epstein-Barr virus infects white blood cells after transplantation, it may cause changes to the infected blood cells leading to cancer.

Post-transplant lymphoproliferative disorder is a life-threatening condition and is debilitating due to weight loss, fever and organ dysfunction.

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

At the time of designation, post-transplant lymphoproliferative disorder, affected approximately 1.8 in 10,000 people in the European Union (EU). This was equivalent to a total of around 92,000 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 513,700,000 (Eurostat 2016).

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, various cancer medicines were authorised in the EU for the treatment of lymphomas such as post-transplant lymphoproliferative disorder.

The sponsor has provided sufficient information to show that the medicine might be of significant benefit for patients with post-transplant lymphoproliferative disorder because early clinical studies indicate that patients whose disease did not respond to previous treatment responded to this 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 contains certain T cells obtained from the patient. T cells are cells of the immune system (the body's natural defences) that kill infected or abnormal cells. To make this medicine, the T cells are exposed to protein fragments from Epstein-Barr virus, so that they can recognise cells infected with the virus and attack them. When the T cells are injected back into the patient, they are expected to attach to infected cancer cells and kill them.

What is the stage of development of this medicine?

At the time of submission of the application for orphan designation, the evaluation of the effects of the medicine in experimental models was ongoing.

At the time of submission, clinical trials with the medicine in patients with post-transplant lymphoproliferative disorder were ongoing.

At the time of submission, the medicine was not authorised anywhere in the EU for post-transplant lymphoproliferative disorder 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 16 June 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 languages[1], Norwegian and Icelandic

Language	Active ingredient	Indication
English	Autologous Epstein-Barr virus specific T-cells derived from peripheral blood mononuclear cells, expanded ex vivo	Treatment of post-transplant lymphoproliferative disorder
Bulgarian	Автоложни Т-клетки, специфични за Epstein-Barr вирус, получени от мононуклеарни клетки от периферна кръв, култивирани ex vivo	Лечение на посттрансплантационно лимфопролиферативно заболяване
Croatian	Autologne T-stanice specifične za Epstein-Barr virus derivirane iz mononuklearnih stanica periferne krvi, ekspandirane ex vivo	Liječenje post-transplancijskog limfoproliferativnog poremećaja
Czech	Autologní Epstein- Barrové virus specifické T buňky získané z periferních mononukleárů, expandované ex vivo	Léčba posttransplančních lymfoproliferací
Danish	Autolog Epstein-Barr virus specifikke T-celler, udvundet fra perifert blod mononukleare celler, ekspanderet ex vivo	Behandling af transplantationsrelateret lymfomsygdom
Dutch	Autologe Epstein-Barr virus specifieke T-cellen afgeleid uit perifeer bloed mononucleaire cellen, geëxpandeerd ex vivo	Behandeling van post-transplant lymphoproliferatieve aandoening
Estonian	Ex vivo paljundatud autoloogsed Epstein-Barri viiruse spetsiifilised T-rakud, mis on saadud perifeerse vere mononukleaarsetest rakkudest	Siirdamisjärgsete lümfoproliferatiivsete haiguste ravi
Finnish	Autologiset Ebstein-Barr virukselle spesifiset t-solut, jotka ovat peräisin perifeerisen veren mononukleaarisista, ex vivo monistetuista soluista	Elinsiirron jälkeisen lymfoproliferatiivisen sairauden hoito
French	Cellules T autologues spécifiques du virus d'Epstein-Barr, dérivées de cellules mononucléaires sanguines périphériques, expansées ex vivo	Traitement des désordres lymphoprolifératifs post-transplantation
German	Autologe T-Zellen spezifisch gegen das Epstein-Barr Virus, gewonnen von mononukleäre Zellen des peripheren Blutes und expandiert ex vivo	Behandlung des Lymphoproliferativen Syndroms nach Transplantation
Greek	Αυτόλογα Epstein-Barr ιού ειδικά Τ-κύτταρα που προέρχονται από μονοπύρηνα κύτταρα περιφερικού αίματος τα οποία επεκτάθηκαν ex vivo	Θεραπεία της λεμφοϋπερπλαστικής διαταραχής μετά από μεταμόσχευση
Hungarian	Ex vivo expandált, perifériális vér mononukleáris sejtekből származó autológ Epstein-Barr vírus specifikus T-sejtek	Poszt-transzplantációs limfoproliferatív megbetegedés kezelése

[1] At the time of designation

Language	Active ingredient	Indication
Italian	Linfociti T autologhi specifici per il virus di Epstein-Barr, derivati da cellule mononucleari ematiche periferiche, espanse in vivo.	Trattamento del disordine linfoproliferativo post-trapianto
Latvian	Autologas pret Epšteina-Barra vīrusu specifickas T šūnas, kas iegūtas no perifēro asiņu mononukleārajām šūnām un pavairotas ex vivo	Pēctransplantācijas limfoproliferatīvo traucējumu ārstēšana
Lithuanian	Autologinės, Epstein-Barr virusui specifinės T ląstelės, išskirtos iš periferinio kraujo mononuklearinių ląstelių, padaugintos ex vivo	Potransplantacinės limfoproliferacinės ligos gydymas
Maltese	Ċelluli T awtologużi speċifiċi għall-virus Epstein-Barr imnissla minn ċelluli mononukleari tad-demm periferali mwassa' ex vivo	Kura tal-marda limfoproliferattiva ta' wara t-trapjant
Polish	Autologiczne komórki T specyficzne dla wirusa Epstein-Barr wyprowadzone z mononuklearnych komórek krwi obwodowej, ekspandowane ex vivo	Leczenie poprzeszczepowej choroby limfoproliferacyjnej
Portuguese	Células T autólogas específicas do vírus de Epstein-Barr derivadas de células mononucleares do sangue periférico, expandidas ex vivo	Tratamento da doença linfoproliferativa pós-transplante
Romanian	Celule T autologe specific pentru virusul Epstein-Barr derivate din celule mononucleare provenite din sângele periferic, expandate ex vivo	Tratamentul tulburării limfoproliferative post-transplant
Slovak	Autológne Epstein-Barr vírus špecifické T-bunky pochádzajúce z mononukleárnych buniek periférnej krvi, expandované ex vivo	Liečba posttransplantačnej lymfoproliferatívnej poruchy
Slovenian	Treatment of extranodal NK/T-cell lymphoma, nasal type Zdravljenje ekstranodalnega NK/T-celičnega limfoma nazalnefa tipa	Zdravljenje potransplantacijske limfoproliferativne motnje
Spanish	Celulas T Autologas expandido ex-vivo especificas para el virus Epstein Barr derivados de celulas mononucleares	Tratamiento del trastorno post-transplante limfoproliferativo
Swedish	Ex vivo expanderade autologa Epstein-Barrvirusspecifika T-celler från perifera mononukleära blodceller	Behandling av post-transplantation lymfoproliferativ sjukdom
Norwegian	Autologe Epstein-Barr virus spesifikke T-celler fra mononukleære celler i perifert blod, ekspandert ex vivo	Behandling av post-transplantasjon lymfoproliferativ sykdom
Icelandic	Samgena Epstein-Barr veiru sértækar T-frumur einangraðar úr einkjarna blóðfrumum og fjölgað ex vivo	Meðferð áeitilfrumuoffjölgunar kvilla eftir líffæraígræðslu