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Committee for Orphan Medicinal Products

Public summary of opinion on orphan designation

Allogeneic CD4+ and CD8+ T lymphocytes ex vivo incubated with synthetic peptides of the viral antigens of cytomegalovirus, adenovirus and Epstein-Barr virus for the treatment of adenovirus infection following haematopoietic stem cell transplantation

On 19 March 2015, orphan designation (EU/3/15/1438) was granted by the European Commission to Miltenyi Biotec GmbH, Germany, for allogeneic CD4+ and CD8+ T lymphocytes ex vivo incubated with synthetic peptides of the viral antigens of Epstein-Barr virus, adenovirus and Epstein-Barr virus for the treatment of adenovirus infection following haematopoietic stem cell transplantation.

What is adenovirus infection?

Adenovirus is a common virus that causes a wide range of illnesses such as colds, sore throat and pneumonia (lung infection). Infection with adenoviruses is rarely severe in healthy people but can be life-threatening in patients with weakened immune systems.

Adenovirus infection is therefore a serious risk in patients who have undergone haematopoietic (blood) stem cell transplantation. Patients undergoing blood stem cell transplantation have their immune systems weakened so that the body does not reject the donor cells. Adenovirus infection can occur as the patient's immune system is still recovering.

Adenovirus infection following haematopoietic stem cell transplantation is life threatening and long-term debilitating, in particular due to the spread of severe infection.

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

At the time of designation, adenovirus infection following haematopoietic stem cell transplantation affected less than 0.1 in 10,000 people in the European Union (EU). This was equivalent to a total of fewer than 5,000 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?

At the time of designation, no satisfactory methods were authorised for treatment of adenovirus infection in the European Union.

How is this medicine expected to work?

This medicine is made from immune cells, known as T lymphocytes, from the same donor that supplied the blood stem cells for the transplant. These immune cells are first incubated with proteins that match those from the adenovirus. When the medicine is then given to the patients, the immune cells are expected to recognise virus proteins as foreign and start attacking the adenovirus in the patient, thereby helping to cure the patient of the infection.

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, no clinical trials with the medicine in patients with adenovirus infection following haematopoietic stem cell transplantation had been started.

At the time of submission, the medicine was not authorised anywhere in the EU for adenovirus infection or designated as an orphan medicinal product elsewhere for the condition.

In accordance with Regulation (EC) No 141/2000 of 16 December 1999, the COMP adopted a positive opinion on 12 February 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:

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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	Allogeneic CD4+ and CD8+ T lymphocytes ex vivo incubated with synthetic peptides of the viral antigens of cytomegalovirus, adenovirus and Epstein-Barr virus	Treatment of adenovirus infection following haematopoietic stem cell transplantation
Bulgarian	Алогенни CD4+ и CD8+ Т лимфоцити екс виво инкубирани със синтетични пептиди на вирусните антигени на цитомегаловирус, аденовирус и вирус на Епщайн-Бар	Лечение на аденовирусна инфекция след трансплантация на хемопоетични стволови клетки
Croatian	Alogeni CD4+ i CD8+ T limfociti ex vivo inkubirani sa sintetičkim peptidima virusnih antigena citomegalovirusa, adenovirusa i Epstein-Barrovog virusa	Liječenje adenovirusne infekcije nakon transplantacije hematopoetskih matičnih stanica
Czech	Alogenní CD4+ a CD8+ T lymfocyty ex vivo inkubované se syntetickými peptidy virových antigenů cytomegaloviru, adenoviru a viru Epstein-Barrové	Léčba infekce adenovirem po transplantaci hematopoetickými zárodečnými buňkami
Danish	Allogeniske CD4+ og CD8+ T lymfocytter ex vivo inkuberet med syntetiske peptider fra de virale antigener cytomegalovirus, adenovirus og Epstein-Barr virus	Behandling af adenovirusinfektion efter transplantation af hæmatopoietiske stamceller
Dutch	Allogeneïsche CD4+ en CD8+ T lymfocyten ex vivo geïncubeerd met synthetische peptiden van de virale antigenen van cytomegalovirus, adenovirus en het Epstein-Barr virus	Behandeling van adenovirusinfecties na hematopoëtische stamceltransplantatie
Estonian	Allogeensed CD4+ ja CD8+ T lümfotsüüdid, mida on organismiväliselt inkubeeritud tsütomegaloviiruse, adenoviiruse ja Epstein-Barr viiruse viiruslike antigeenide sünteetiliste peptiididega	Adenoviirusinfektsioonide ravi peale hematopoeetiliste tüvirakkude siirdamist
Finnish	Sytomegaloviruksen, adenoviruksen ja Epstein-Barrin viruksen virusinfektioiden synteettisten peptidien kanssa kehon ulkopuolella viljeltyjä allogeenisiä CD4+ ja CD8+ T-lymfosyyttejä	Hematopoieettisen kantasolusiirron jälkeisen adenovirusinfektion hoito
French	Lymphocytes T allogénéiques CD4+ et CD8+ incubés ex vivo avec des peptides synthétiques des antigènes viraux du cytomégalovirus, de l'adénovirus et du virus d'Epstein-Barr	Traitement de l'infection à adénovirus suivant une greffe de cellules souches hématopoïétiques

[1] At the time of designation

Language	Active ingredient	Indication
German	Allogene CD4- und CD8-positive T-Lymphozyten, die ex vivo mit synthetischen Peptiden von Zytomegalievirus-, Adenovirus- und Epstein-Barr-Virus-Antigenen inkubiert werden	Behandlung von Adenovirusinfektionen nach hämatopoietischer Stammzellentransplantation
Greek	Αλλογενή Τ λεμφοκύτταρα CD4+ και CD8+ επωασμένα ex vivo με συνθετικά πεπτίδια των ιικών αντιγόνων κυτταρομεγαλοϊού, αδενοϊού και ιού Epstein-Barr	Θεραπεία λοιμώξεων από αδενοϊό, μετά από μεταμόσχευση αιμοποιητικών βλαστοκυττάρων
Hungarian	Allogenikus CD4+ és CD8+ T limfociták, ex vivo inkubálva citomegalovírus, adenovírus és Epstein-Barr vírus virális antigénjeinek szintetikus peptidjeivel	Haematopoietikus őssejt transzplantációt követő adenovirus infekciók kezelésére
Italian	Linfociti T CD4+ e CD8+ allogenici incubati ex vivo con peptidi sintetici degli antigeni virali di citomegalovirus, adenovirus e virus di Epstein-Barr	Trattamento di infezioni da adenovirus conseguenti a trapianti di cellule staminali ematopoietiche
Latvian	Alogēni CD4+ un CD8+ T limfocīti, kas inkubēti *ex vivo* ar citomegalovīrusa, adenovīrusa un Epšteina-Barra vīrusa antigēnu sintētiskajiem peptīdiem	Adenovīrusu infekcijas ārstēšana pēc hematopoētisko cilmes šūnu transplantācijas
Lithuanian	Alogeniniai CD4 + ir CD8 + T limfocitai, inkubuoti *ex vivo* su sintetiniais peptidais iš virusinių citomegalo viruso, adenoviruso ir Epstein- Barr viruso antigenų	Adenovirusinės infekcijos po hemopoetinių kamieninių ląstelių transplantacijos gydymas
Maltese	Limfoċiti tat-tip T CD4+ u CD8+ alloġeniċi inkubati ex vivo ma' peptidi sintetiċi tal-antiġeni virali ta' ċitomegalovirus, adenovirus u l-virus Epstein-Barr	Kura ta' infezzjoni minn adenovirus wara trapjant ta' ċelluli staminali ematopojetiċi
Polish	Allogeniczne limfocyty T CD4+ oraz CD8+ inkubowane *ex vivo* z syntetycznymi peptydami antygenów wirusowych wirusa cytomegalii, adenowirusa oraz wirusa Epsteina-Barr	Leczenie zakażeń adenowirusem po przeszczepach hematopoetycznych komórek macierzystych
Portuguese	Linfócitos CD4 + e CD8 + T alogénicos *ex vivo* incubados com os péptidos sintéticos dos antigénios virais de citomegalovírus, adenovírus e vírus de Epstein-Barr	Tratamento da infecção por adenovirus em transplantes de células estaminais hematopoiéticas
Romanian	Limfocite T alogenice CD4+ şi CD8+ incubate ex vivo cu peptide sintetice ale antigenelor virale ale citomegalovirusului, adenovirusului şi virusului Epstein-Barr	Tratamentul infecţiilor cu adenovirus post transplant de celule stem hematopoietice
Slovak	Alogénne CD4+ a CD8+ T lymfocyty, inkubované ex vivo so syntetickými peptidmi vírusových antigénov cytomegalovírusu, adenovírusu a vírusu Epsteina-Barrovej	Liečba adenovírusových infekcií po hematopoetickej transplantácii kmeňových buniek

Language	Active ingredient	Indication
Slovenian	Alogenski limfociti CD4+ in CD8+ T, ex vivo inkubirani s sintetičnimi peptidi virusnih antigenov citomegalovirusa, adenovirusa in virusa Epstein-Barr	Zdravljenje adenovirusne okužbe po transplantaciji krvotvornih matičnih celic
Spanish	Linfocitos T CD4+ y CD8+ alogénicos ex vivo incubados con péptidos sintéticos de los antígenos virales del citomegalovirus, del adenovirus y del virus de Epstein-Barr	Tratamiento de infecciones virales Adeno en transplantes de células madre hematopoieticas alotrasplantes de células madre
Swedish	Allogena CD4+ och CD8+ T lymfocyter som framställts ex vivo med syntetiska peptider av virusantigen från cytomegalovirus, adenovirus och Epstein-Barr virus	Behandling av adenovirusinfektioner efter hematopoetisk stamcellstransplantation
Norwegian	Allogene CD4+ - og CD8+ -T-lymfocytter inkubert ex vivo med syntetiske peptider av virusantigener fra cytomegalovirus, adenovirus og Epstein-Barr-virus	Behandling av adenovirusinfeksjon etter hematopoetisk stamcelletransplantasjon
Icelandic	Ósamgena CD4+ og CD8+ T-eitilfrumur ræktaðar ex vivo með tilbúnum peptíðum veirumótefnavaka úr stórfrumuveiru, adenóveiru og Epstein-Barr veiru	Meðferð við adenóveirusýkingum eftir ósamgena blóðstofnfrumuígræðslu