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Committee for Orphan Medicinal Products

Public summary of opinion on orphan designation

Allogeneic ex-vivo-expanded umbilical cord blood-derived haematopoietic CD34+ progenitor cells and allogeneic non-expanded umbilical cord blood-derived haematopoietic mature myeloid and lymphoid cells for treatment in haematopoietic stem cell transplantation

On 20 March 2017, orphan designation (EU/3/17/1852) was granted by the European Commission to Regulatory Resources Group Ltd, United Kingdom, for allogeneic ex-vivo-expanded umbilical cord blood-derived haematopoietic CD34+ progenitor cells and allogeneic non-expanded umbilical cord blood-derived haematopoietic mature myeloid and lymphoid cells (also known as NiCord) for treatment in haematopoietic stem cell transplantation.

What is haematopoietic stem cell transplantation?

Haematopoietic stem cell transplantation (HSCT) is a procedure where the patient's bone marrow is cleared of cells and replaced by stem cells (cells that can develop into different types of cell) from a donor to form new bone marrow that produces healthy blood cells. It can be used to treat serious diseases of the blood and immune system such as leukaemia.

HSCT can be a debilitating and life-threatening procedure due to the risk of severe infections and developing graft-versus-host disease (when the transplanted cells regard the patient's body as 'foreign' and attack the patient's organs, leading to organ damage).

What is the estimated number of patients receiving haematopoietic stem cell transplantation?

At the time of designation, approximately 1 in 10,000 people in the European Union (EU) receive HSCT per year. This was equivalent to a total of around 52,000 people per year[*], 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 515,700,000 (Eurostat 2017).

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What treatments are available?

At the time of designation, several medicines were authorised in the EU for patients undergoing HSCT. These included radiation treatment or intensive treatment with cancer medicines such as busulfan to clear the bone marrow of existing cells, medicines to help restore the immune system, such as filgrastim, immunoglobulin replacement therapy and Zalmoxis, and medicines to reduce the risk of infections, such as antiviral and antifungal medicines. Medicines that suppress the immune system, such as ciclosporin and corticosteroids, were used for the treatment of graft-versus-host disease.

The sponsor has provided sufficient information to show that this medicine might be of significant benefit for patients undergoing HSCT because early studies indicate that it can improve success of the transplants. 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 blood present in the umbilical cord that connects the baby to the placenta (cord blood) is rich in immature stem cells that can be used for HSCT, and which have a lower risk than adult stem cells of being rejected by the donor or of graft-versus-host disease. In addition, cord blood can be collected without the need for a surgical procedure. However, because of the small volumes of cord blood, the overall numbers of stem cells collected this way are generally too low to be useful in adults.

The medicine consists of cord blood from which some of the stem cells (called CD34+ cells) have been extracted and grown in the laboratory to increase their numbers, before adding them back to the blood. The enriched cord blood with its increased number of stem cells can then be used to restore normal bone marrow in patients undergoing HSCT.

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 receiving HSCT were ongoing.

At the time of submission, the medicine was not authorised anywhere in the EU for treatment in HSCT. Orphan designation of the medicine had been granted in the EU for acute myeloid leukaemia, and in the United States for acute myeloid leukaemia, acute lymphoblastic leukaemia, Hodgkin's lymphoma, myelodysplastic syndrome and chronic myeloid leukaemia.

In accordance with Regulation (EC) No 141/2000 of 16 December 1999, the COMP adopted a positive opinion on 16 February 2017 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	Allogeneic ex-vivo-expanded umbilical cord blood-derived hematopoietic CD34+ progenitor cells and allogeneic non-expanded umbilical cord blood-derived hematopoietic mature myeloid and lymphoid cells	Treatment in haematopoietic stem cell transplantation
Bulgarian	Алогенни ex vivo култивирани хематопоетични CD34+ прогениторни клетки от умбиликална кръв и алогенни некултивирани хематопоетични зрели миелоидни и лимфоидни клетки от умбиликална кръв	Лечение при трансплантация на хемопоетични стволови клетки
Croatian	Alogene ex-vivo ekspandirane hematopoetske CD34+ progenitorske stanice iz krvi pupkovine i alogene neeskpandirane hematopoetske zrele mijeloidne i limfoidne stanice iz krvi pupkovine	Liječenje u transplantaciji hematopoetskih matičnih stanica
Czech	Allogení ex vivo expandované CD34+ progenitorové buňky pupečníkové krve a allogení neexpandované zralé myeloidní a lymfoidní buňky pupečníkové krve	Léčba transplantace hemopoetickými zárodečnými buňkami
Danish	Allogene ex-vivo ekspanderede haematopoietiske CD34+ progenitor celler afledt af navlestrengsblod og allogene ikke-ekspanderede haematopoietiske modne myeloide og lymphoide celler afledt af navlestrengsblod	Behandling i hæmatopoietisk stamcelletransplantation
Dutch	Allogene ex-vivo-geëxpandeerde uit navelstreng bloed afgeleide hematopoëtische CD34+ progenitor cellen en allogene niet-geëxpandeerde uit navelstreng bloed afgeleide hematopoëtische mature myeloïde en lymphoïde cellen	Behandeling in haematopoiëtische stemceltransplantatie
Estonian	Allogeensed ex-vivo kasvatatud nabaväädi verepõhised hematopoeetilised CD34+ progenitoorsed rakud ja allogeensed mittekasvatatud nabaväädi verepõhised hematopoeetilised küpsed müeloid-ja lümfoidrakud	Kasutamiseks hematopoeetiliste tüvirakkude transplantatsiooni ravis
Finnish	Allogeeniset ex-vivo laajennetut istukkaperäiset, hematopoieettiset CD34+ kantasolut ja allogeeniset ei-laajennetut istukkaperäiset, hematopoieettiset kypsät myelooiset and lymfaattiset solut	Hoito hematopoeettisen kantasolusiirron yhteydessä

[1] At the time of designation

Language	Active ingredient	Indication
French	Cellules progénitrices hématopoiétiques CD34+ allogéniques expansées ex-vivo dérivées de sang de cordon ombilical et cellules hématopoiétiques myéloides et lymphoides matures allogéniques non-expansées dérivées de sang de cordon ombilical	Traitement dans la greffe de moëlle osseuse
German	Allogene ex-vivo expandierte CD34+ haematopoetische Stamzellen aus dem Nabelschnurblut, und allogene nicht expandierte reife myeloide und lymphoide Zellen aus dem Nabelschnurblut	Behandlung in hämatopoetischer Stammzelltransplantation
Greek	Αλλογενή αιματοποιητικά CD34+ προγονικά κύτταρα αίματος ομφάλιου λώρου πολλαπλασιασμένα ex-vivo και αλλογενή μη πολλαπλασιασμλενα αιμοποιητικά ώριμα μυελογενή και λεμφικά κύτταρα αίματος ομφάλιου λώρου	θεραπεία σε μεταμόσχευση αρχέγονων αιμοποιητικών κυττάρων
Hungarian	Köldökzsinórvérből származó, allogén, ex-vivo expandált hematopoietikus CD34+ progenitor sejtek és köldökzsinórvérből származó, allogén, nem expandált hematopoietikus érett myeloid és limfoid sejtek	Hematopoietikus őssejt-transzplantáció esetén alkalmazandó
Italian	Cellule progenitrici ematopoietiche allogeniche CD34+ derivate da cordone ombelicale espanse ex-vivo e cellule ematopoietiche mieloidi e linfoidi mature non espanse derivate da cordone ombelicale	Trattamento nel trapianto di cellule staminali ematopoietiche
Latvian	Allogēnas *ex-vivo* pavairotas no nabas saites asinīm iegūtas hematopoētiskās CD34+ celmšūnas un allogēnas nepavairotas no nabas saites asinīm iegūtas hematopoētiskas nobriedušas mieloīdās un limfoīdās šūnas	Ārstēšanai hematopoētisko cilmes šūnu transplantācijā
Lithuanian	Alogeninės *ex-vivo* padaugintos, iš virkštelės kraujo išskirtos hemotopoetinės CD34+ pirmtakų ląstelės ir alogeninės, nepadaugintos, iš virkštelės kraujo išskirtos hematopoetinės brandžios mieloidinės ir limfoidinės ląstelės	Taikoma hematopoetinių kamieninių ląstelių transplantacijų gydyme
Maltese	Ċelloli proġenituri CD34+ ematopojetiċi derivati mid-demm tal-kurdun umbilikali espandut *ex-vivo* u ċelluli tal-mijelojde u tal-limfojde maturi ematopojetiċi derivati mid-demm tal-kurdun umbilikali mhux espandut alloġeniċi	Kura fi trapjant ta' ċelloli staminali ematopojetiċi
Polish	Allogeniczne namnożone ex vivo progenitorowe komórki krwiotwórcze CD34+ wywodzące się z krwi pępowinowej oraz allogeniczne nienamnożone dojrzałe komórki mieloidalne i limfoidalne wywodzące się z krwi pępowinowej	Leczenie w przebiegu przeszczepu hematopoetycznych komórek macierzystych

Language	Active ingredient	Indication
Portuguese	Células hematopoiéticas CD34+ alogénicas derivadas de sangue do cordão umbilical humano expandidas *ex-vivo e* células mielóides e linfóides não expandidas derivadas de sangue do cordão umbilical	Tratamento em transplantes de células estaminais hematopoiéticas
Romanian	Celule progenitoare hematopoietice alogenice CD34+ derivate din sângele cordonului ombilical expandate ex-vivo şi celule hematopoietice mieloide şi limfoide mature neexpandate derivate din sângele cordonului ombilical	Tratament în transplantul de celule stem hematopoetice
Slovak	Alogenické ex-vivo expandované hematopoietické progenitorové CD34+ bunky z pupočníkovej krvi a alogenické neexpandované hematopoietické dospelé myeloidné a lymfoidné bunky z pupočníkovej krvi	Liečba pri transplantácii hematopoietických kmeňových buniek
Slovenian	Alogene, ex vivo ekspandirane hematopoetične CD34+ progenitorske celice iz popkovnične krvi in alogene ne-ekspandirane hematopoetične zrele mieloične ter limfoidne celice iz popkovnične krvi	Zdravljenje pritransplantaciji hematopoetskih matičnih celic
Spanish	Células hematopoiéticas CD34+ alogénicas derivadas de sangre del cordon umbilical humano expandidas ex-vivo y células mielóides y linfóides no expandidas derivadas de sangre del cordon umbilical	Tratamiento en el trasplante de células madre hematopoyéticas
Swedish	Allogena ex-vivo expanderade hematopoetiska CD34+ progenitorceller från navelsträngsblod och allogena icke-expanderade hematopoetiska mogna myeloida och lymfoida celler från navelsträngsblod	Behandling vid hematopoetisk stamcellstransplantation
Norwegian	Allogene ex vivo-ekspanderte hematopoetiske CD34+ forløperceller fra navlestrengsblod og allogene ikke-ekspanderte hematopoetiske modne myeloide og lymfoide celler fra navlestrengsblod	Behandling ved hematopoetisk stamcelletransplantasjon
Icelandic	Ósamgena ex vivo útvíkkaðar naflastrengs blóð CD34+ forstigsfrumur og ósamgena ekki útvíkkaðar naflastrengs hem hematopoietic þroskaðar mýelóíð og eitilfrumur	Meðferð á stofnfrumublóðfrumu ígræðslu