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Committee for Orphan Medicinal Products

Public summary of opinion on orphan designation

Allogeneic *ex vivo* expanded umbilical cord blood cells for the treatment of acute lymphoblastic leukaemia

First publication	26 October 2009
Rev.1: sponsor's change of address	9 November 2011
Rev.2: transfer of sponsorship	12 September 2013
Rev.3: withdrawal from the Community Register	13 April 2015
Disclaimer Please note that revisions to the Public Summary of Opinion are purely administrative updates. Therefore, the scientific content of the document reflects the outcome of the Committee for Orphan Medicinal Products (COMP) at the time of designation and is not updated after first publication.	

Please note that this product was withdrawn from the Community Register of designated Orphan Medicinal Products in February 2015 on request of the Sponsor.

On 27 February 2009, orphan designation (EU/3/09/618) was granted by the European Commission to Teva Pharma GmbH, Germany, for allogeneic *ex vivo* expanded umbilical cord blood cells for the treatment of acute lymphoblastic leukaemia.

The sponsorship was transferred to Regulatory Resources Group Ltd, United Kingdom, in July 2013.

What is acute lymphoblastic leukaemia?

Acute lymphoblastic leukaemia (ALL) is a cancer of the white blood cells called lymphocytes. In this disease, the lymphocytes multiply too quickly and live for too long, so there are too many of them circulating in the blood. These abnormal lymphocytes are not fully developed and do not work properly. Over a period of time, they replace the normal white cells and red blood cells and platelets in the bone marrow (the spongy tissue inside the large bones in the body).

ALL is the most common type of leukaemia in young children, but the disease also affects adults, especially those aged 65 years and older. Many people with acute leukaemia can be cured. However, despite the available treatments, ALL remains a serious and life-threatening disease in some patients.

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

At the time of designation, ALL affected approximately 1.1 in 10,000 people in the European Union (EU). This was below the threshold for orphan designation[*], which is 5 in 10,000, and is equivalent to a total of around 56,000 people. This is based on the information provided by the sponsor and knowledge of the Committee for Orphan Medicinal Products (COMP).

What treatments are available?

Treatment for ALL 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. The main treatment of ALL is chemotherapy (medicines used to kill cancer cells) followed by or combined with radiotherapy (using radiation to kill cancer cells). Bone marrow transplantation is also used. This is a complex procedure where the bone marrow of the patient is destroyed and replaced with bone marrow from a matched donor.

The sponsor has provided sufficient information to show that allogeneic *ex vivo* expanded umbilical cord blood cells might be of potential significant benefit for the treatment of ALL because they may be an alternative to donated bone marrow for use in transplantation. 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 umbilical cord is the tube that connects an unborn child to its mother until birth. It contains 'stem cells', cells that are usually made in the bone marrow and can develop into different types of cell.

Allogeneic *ex vivo* expanded umbilical cord blood cells come from umbilical cords donated after birth. Because umbilical cord blood cells are only found in small quantities, the cells are cultivated using a technique called *ex vivo* expansion to increase their number.

When allogeneic *ex vivo* expanded umbilical cord blood cells are transplanted into patients with ALL, the stem cells they contain are expected to 'home' to in the bone marrow and produce normal white blood cells, which will replace the immature blast cells.

What is the stage of development of this medicine?

The effects of allogeneic *ex vivo* expanded umbilical cord blood cells have been evaluated in experimental models.

At the time of submission of the application for orphan designation, clinical trials in patients with ALL were ongoing.

At the time of submission, allogeneic *ex vivo* expanded umbilical cord blood cells had not been authorised anywhere in the world for the treatment of ALL. Orphan designation of the medicine had been granted in the United States of America for the condition.

In accordance with Regulation (EC) No 141/2000 of 16 December 1999, the COMP adopted a positive opinion on 7 January 2009 recommending the granting of this designation.

[*] 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 27), Norway, Iceland and Liechtenstein.
At the time of designation, this represented a population of 504,800,000 (Eurostat 2009).

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 *ex vivo* expanded umbilical cord blood cells	Treatment of acute lymphoblastic leukaemia
Bulgarian	Алогенни *ex vivo* култивирани кръвни клетки от пъпна връв	Лечение на остра лимфобластна левкемия
Croatian	Alogene *ex vivo* umnožene krvne stanice iz pupčane vrpce	Liječenje akutne limfoblastične leukemije
Czech	Alogenní ex vivo kultivované krvetvorné buňky z pupečníkové krve	Léčba akutní lymfoblastické leukémie
Danish	Allogene ex vivo ekspanderede navlestrengsblodlegemer	Behandling af akut lymfoblastær leukæmi
Dutch	Allogene *ex vivo* geëxpandeerde navelstrengbloedcellen	Behandeling van acute lymfoblastaire leukemie
Estonian	Allogeensed *ex vivo* eraldatud nabaväädi vererakud	Ägeda lümfoblastilise leukeemia ravi
Finnish	Allogeeniset *ex vivo* kasvatetut napanuoran verisolut	Akuutin lymfoblastileukemian hoito
French	Cellules allogéniques du sang de cordon ombilical amplifiées *ex-vivo*	Traitement de la leucémie lymphoblastique aiguë
German	Allogene *ex vivo* expandierte Nabelschnurblutzellen	Behandlung der akuten lymphatischen Leukämie
Greek	Αλλογενή ex vivo καλλιεργημένα αιμοσφαίρια ομφάλιου λώρου	Θεραπεία της οξείας λεμφοβλαστικής λευχαιμίας
Hungarian	Allogén *ex vivo* megnyúlt köldökzsinór vérsejtek	Akut lymphoblastos leukaemia kezelése
Italian	Cellule ematiche allogeniche da cordone ombelicale, espanse ex-vivo	Trattamento della leucemia linfoblastica acuta
Latvian	Allogēnas *ex vivo* ekspansētas nabassaites asins šūnas	Akūtas limfoblastiskas leikozes ārstēšana
Lithuanian	Alogeninės *ex vivo* padaugintos virkštelės kraujo kamieninės ląstelės	Ūmios limfoblastinės leukemijos gydymas
Maltese	Ċelluli tad-demm alloġeniċi ġejjin mill-kurdun umbilikolu, mwassa' ex vivo	Kura tal-lewkimja limfoblastika akuta
Polish	Alogeniczne komórki krwi pępowinowej uzyskane w wyniku ekspansji ex vivo	Leczenie ostrej białaczki limfoblastycznej
Portuguese	Células alogénicas do sangue do cordão umbilical expandidas *ex vivo*	Tratamento da leucémia linfoblástica aguda
Romanian	Celule sanguine alogenice din cordonul ombilical amplificate *ex vivo*	Tratamentul leucemiei limfoblastice acute
Slovak	Alogénne *ex vivo* krvinky z pupočnej šnúry	Liečba akútnej lymfoblastickej leukémie
Slovenian	Alogenske celice, pridobljene z *ex vivo* ekspanzijo iz popkovnične krvi	Zdravljenje akutne limfoblastne levkemije

[1] At the time of designation

Language	Active Ingredient	Indication
Spanish	Células sanguíneas alogénicas de cordón umbilical expandidas *ex vivo*	Tratamiento de la leucemia linfoblástica aguda
Swedish	Allogeniska *ex vivo* expanderade navelsträngsblodceller	Behandling av akut lymfatisk leukemi
Norwegian	Allogen ex vivo ekspanderte navlestrengsblodceller	Behandling av akutt lymfoblastisk leukemi
Icelandic	Ósamgena ex vivo útvíkkuð naflastrengsblóðfrumur	Meðferð við bráðu eitilfrumuhvítblæði