European Medicines Agency
Pre-authorisation Evaluation of Medicines for Human Use

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Please note that this product was withdrawn from the Community Register of designated Orphan Medicinal Products in September 2007.

Committee for Orphan Medicinal Products

Public summary of positive opinion for orphan designation of autologous CD34+ cells transfected with retroviral vector containing the human gp91 (phox) gene for the treatment of chronic granulomatous disease

On 13 July 2006, orphan designation (EU/3/06/393) was granted by the European Commission to Vision 7 GmbH, Germany, for autologous CD34+ cells transfected with retroviral vector containing the human gp91 (phox) gene for the treatment of chronic granulomatous disease.

What is chronic granulomatous disease?
Chronic granulomatous disease (CGD) is a diverse group of hereditary diseases in which certain cells of the immune system (body's natural defence against pathogens such as bacteria and viruses, and disease), known as neutrophils and monocytes have difficulty forming the reactive oxygen compounds (most importantly, the superoxide radical) used to kill certain ingested pathogens. Patients with CGD suffer from severe and recurrent bacterial and fungal infections, as their immune system cannot fight them. CGD is a life-threatening condition.

What is the estimated number of patients affected by the condition?
At the time of designation chronic granulomatous disease affected less than 1 in 10,000 people in the European Union (EU)[*]. This is based on the information provided by the sponsor and knowledge of the Committee for Orphan Medicinal Products (COMP). This is below the threshold for orphan designation which is 5 in 10,000. This is equivalent to a total of around 46,000 people.

What treatments are available?
The standard treatment for CGD includes anti-microbial prophylaxis, immunotherapy with interferon alpha (IFN-α) and aggressive early treatment of infections. Intravenous antibiotics/anti-fungal agents are the usual treatment for serious infections. Associated abscesses should be completely surgically drained as soon as possible. At the time of submission of the application for orphan drug designation, medicinal products to treat CGD were authorised in the Community.
Autologous CD34+ cells transfected with retroviral vector containing the human gp91 (phox) gene might be of potential significant benefit for the treatment of chronic granulomatous disease because it might restore the normal function of immune system. This assumption will have to be confirmed at the time of marketing authorisation. This will be necessary to maintain the orphan status.

How is this medicine expected to work?

[*]Disclaimer: For the purpose of the designation, the number of patients affected by the condition is estimated and assessed based on data from the European Union (EU 25), Norway, Iceland and Liechtenstein. This represents a population of 459,700,000 (Eurostat 2004).

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Autologous CD34+ cells transfected with retroviral vector containing the human gp91 (phox) gene product is a so-called somatic cell therapy product. Patients' own (autologous) immature blood cells are isolated from the patients, and the genetic material of the cells is modified to express gp91 (phox), the missing gene in CGD. Cells are then given back to the patients and as they express gp91 they are expected to eliminate microorganisms in the same way as cells of the normal immune system of healthy individuals.

What is the stage of development of this medicine?
The evaluation of the effects of autologous CD34+ cells transfected with retroviral vector containing the human gp91 (phox) gene in experimental models was ongoing.

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

Autologous CD34+ cells transfected with retroviral vector containing the human gp91 (phox) gene was not authorised anywhere worldwide for chronic granulomatous disease or designated as orphan medicinal product elsewhere for this condition, at the time of submission.

According to Regulation (EC) No 141/2000 of 16 December 1999, the Committee for Orphan Medicinal Products (COMP) adopted on 12 July 2006 a positive opinion recommending the grant of the above-mentioned 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;
- and either the rarity of the condition (affecting not more than five in 10,000 people in the Community) or the 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 the quality, safety and efficacy is necessary before a product can be granted a marketing authorisation.

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Translations of the active ingredient and indication in all EU languages and Norwegian and Icelandic

Language	Active Ingredient	Indication
English	Autologous CD34+ cells transfected with retroviral vector containing the human gp91(phox) gene	Treatment of chronic granulomatous disease
Czech	Autologní CD34+ buňky, transdukované retrovirálním vektorem, který obsahuje lidský gen gp91(phox)	Léčba chronické granulomatózy
Danish	Autologe CD34+ celler, transfekteret med en retroviral vektor, der indeholder det humane gp91(phox) gen	Behandling af kronisk granulomatose
Dutch	Autologe CD34+ cellen getransfecteerd met een retrovirale vector, die het humane gp91(phox) gen bevat	Behandeling van chronische granulomatosis
Estonian	Autoloogsed CD34+ rakud, mille sisse on viidud retroviraalne vektor, mis sialdab inimese gp91 (phox) geeni	Kroonilise granulomatooshaiguse ravi.
Finnish	Autologisia CD34+ -soluja, siirretty transduktion avulla retrovirusvektorilla, joka sisältää ihmisgeenin gp91(phox)	Kroonisen granulomatoosin hoito
French	Cellules autologues CD34+, transfectées par un vecteur rétroviral qui contient le gène humain gp91 (phox)	Traitement de la granulomatose chronique
German	Autologe CD34+ Zellen, transfiziert mit einem retroviralen Vektor, der das humane gp91(phox) Gen enthält	Behandlung chronischer Granulomatose
Greek	Αυτόλογα κύτταρα CD34+, επιμολυσμένα με ρετροϊικό φορέα, ο οποίος περιέχει το ανθρώπινο γονίδιο gp91(phox)	Θεραπεία χρόνιας κοκκιωματώδους νόσου
Hungarian	Humán gp91(phox) gént tartalmazó retrovirális vektorral transzfektált autológ CD34+ sejtek	Krónikus granulomatosus betegség kezelése
Italian	Cellule CD34+ autologhe, transfettate con un vettore retrovirale contenente il gene umano gp91 (phox)	Trattamento della granulomatosi cronica
Latvian	Autologas CD34+ šūnas, kuras transducētas ar retrovirālo vektoru, kas satur cilvēka gp91(phox) gēnu	Hroniskas granulomatozes ārstēšana
Lithuanian	Autologinės CD34 $^{+}$ ląstelės su perkeltu retrovirusiniu vektoriu, pernešančiu žmogaus gp91 (phox) geną	Lėtinės granulomatozės gydymas
Polish	Autologiczne komórki CD34+, transfekowane wektorem retrowirusowym, zawierającym gen ludzki gp91 (phox)	Leczenie przewlekłej ziarniniakowatości
Portuguese	Células autólogas CD34 positivas, Transfectadas com um vector retroviral que contém o gene humano gp91(phox)	Para o tratamento de granulomatose crónica
Slovak	Autológne CD34+ bunky, transfektované	Liečba chronickej granulomatózy

	retrovirálnym vektorom, ktorý obsahuje ľudský gén gp91(phox)	
Slovenian	Avtologne celice CD34+, transfektirane z retrovirusnim vektorjem, ki vsebuje človeški gen gp91 (phox)	Zdravljenje kronične granulomatoze
Spanish	Células autólogas, CD34 positivas transfectadas con un vector retrovírico que conteniene el gen humano gp91(phox)	Tratamiento de la enfermedad granulomatosa crónica
Swedish	Autologa CD34+ celler, transfekterade med retroviral vektor bärande på mänsklig gp91 (phox) gen	Behandling av kronisk granulomatös sjukdom
Norwegian	Autologe CD34+ celler, transfektert ved hjelp av en retroviral vektor som inneholder det humane gp91(phox)-genet	Behandling av kronisk granulomatose
Icelandic	Eigin CD34+ frumur sýktarmeð retróveiru ferju sem inniheldur manna gp91 (phox) gen	Meðhöndlun á langvinnum granulómabólgusjúkdómi