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Please note that this product was withdrawn from the Community Register of designated Orphan Medicinal Products in December 2008 on request of the sponsor.

Committee for Orphan Medicinal Products

Public summary of positive opinion for orphan designation of recombinant human alpha-1 antitrypsin for the treatment of emphysema secondary to congenital alpha-1 antitrypsin deficiency

On, 30 May 2001 orphan designation (EU/3/01/041) was granted by the European Commission to Bayer AG, Germany, recombinant human alpha-1 antitrypsin for the treatment of emphysema secondary to congenital alpha-1 antitrypsin deficiency.
The sponsorship was transferred to Talecris Biotherapeutics GmbH, Germany in March 2007.

What is emphysema secondary to congenital alpha-1 antitrypsin deficiency?
Congenital alpha 1 antitrypsin deficiency is an inherited disease that is characterised by a lack (deficiency) of a protein in the blood called 'alpha 1 proteinase inhibitor' or 'alpha 1 antitrypsin' (AAT). AAT is produced in the liver and its main function is to control another protein called elastase. Elastase is an enzyme that breaks down a cell constituent, elastin, which is present in the lungs. Because AAT is missing in patients with congenital alpha 1 antitrypsin deficiency, elastase can accumulate in the lungs, and the patients can develop a lung disease called emphysema, resulting in shortness of breath, coughing and wheezing.
Congenital AAT deficiency is a debilitating disease that is long lasting and can be life-threatening.

What is the estimated number of patients affected by the condition[*]?
At the time of designation emphysema secondary to congenital alpha-1 antitrypsin deficiency affected approximately 2.5 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 94,000 people.

What treatments are available?
At the time of submission of the application for orphan drug designation, treatment for lung disease due to AAT deficiency included medicines that help patients to breathe, oxygen, and medicines containing human AAT given as an injection into a vein. In the most severe cases of lung disease, a lung transplant might be considered.
Satisfactory argumentation has been submitted by the sponsor to justify the assumption that recombinant human alpha-1 antitrypsin might be of potential significant benefit for the treatment of emphysema secondary to congenital alpha-1 antitrypsin deficiency. The assumption will have to be confirmed at the time of marketing authorisation. This will be necessary to maintain the orphan status.

[*]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. This represents a population of 377,000,000 (Eurostat 2001).

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How is this medicine expected to work?
Recombinant human AAT is a protein that is produced in yeast using combinations of genes. The resulting AAT is similar to the natural protein found in the human blood. The product is made into an aerosol, which the patient can inhale. This way, the inhaled protein could reach the lungs where it would replace the natural AAT that is missing and might oppose the effects of elastase. This action is expected to slow down the worsening of the lung disease.

What is the stage of development of this medicine?
At the time of submission of the application for orphan designation, clinical trials in patients with emphysema secondary to congenital alpha-1 antitrypsin deficiency were ongoing.

AAT was not marketed anywhere worldwide for the treatment of emphysema secondary to congenital alpha-1 antitrypsin deficiency. An orphan designation for this condition was granted in the United States.

According to Regulation (EC) No 141/2000 of 16 December 1999, the Committee for Orphan Medicinal Products (COMP) adopted on 10 April 2001 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

Language	Active Ingredient	Indication
English	Recombinant human alpha-1-antitrypsin	Treatment of emphysema secondary to congenital alpha-1-antitrypsin deficiency
Bulgarian	Рекомбинантен човешки алфа-1-антитрипсин (за респираторно приложение)	Лечение на вторичен емфизем, вследствие на вродена алфа-1-антитрипсинова недостатъчност
Czech	Rekombinantní lidský alfa-1 antitrypsin (k inhalačnímu užití)	Léčba emfyzému způsobeného kongenitálním deficitem alfa-1 antitrypsinu
Danish	Rekombinant humant alfa-1-antitrypsin	Behandling af emfysem som følge af medfødt alfa-1-antitrypsinmangel
Dutch	Recombinant humaan alfa-1-antitrypsine	Behandeling van emfyseem ten gevolge van aangeboren alfa-1-antitrypsine deficiëntie
Estonian	Rekombinantne inimese alfa-1-antitüpsiin (respiratoorseks kasutamiseks)	Kaasasündinud alfa-1-antitrüpsiini defitsiidist tingitud sekundaarse emfüseemi ravi
Finnish	Rekombinantti humaani alfa-1-antitrypsiini	Synnynnäisestä alfa-1-antitrypsiinin puutteesta johtuvan emfyseeman hoito
French	Alpha-1-antitrypsine humaine recombinante	traitement de l'emphysème lié à un déficit congénital en alpha-1-antitrypsine
German	Humanes rekombinantes Alpha-1-Antritrypsin	Behandlung von Lungenemphysem infolge von angeborenem Alpha-1-Antitrypsinmangel
Greek	Ανασυνδυασμένη ανθρώπινη α-1 αντιθρυψίνη	θεραπεία του δευτεροπαθους εμφυσήματος στη συγγενή έλλειψη α-1- αντιθρυψίνης
Hungarian	Rekombináns humán alfa-1-antitripszin (légzőrendszeri felhasználásra)	Veleszületett alfa-1-antitripszin hiány következtében kialakuló ephysema kezelése
Italian	Alfa-1-antitripsina umana ricombinante	Trattamento di enfisema secondario alla carenza congenita di alfa-1-antitripsina
Latvian	Rekombinantais cilvēka alfa-1-antitripsīns (respiratora lietošana)	Iedzimta alfa -1- antitripsīna deficīta izraisīta sekundāra emfizēmas ārstēšana
Lithuanian	Rekombinantinis žmogaus alfa – 1 antitripsinas (inhaliuoti)	Antrinės emfizemos gydymui, esant įgimtam alfa – 1 antitripsino deficitui
Polish	Rekombinowana ludzka alfa-1-antytrypsyna (zastosowanie wziewne)	Leczenie rozedmy wtórnej do wrodzonego niedoboru alfa-1-antytrypsyny
Portuguese	Alfa-1-antitripsina humana recombinante	Tratamento com enfisema secundário a deficiência congénita de alfa-1-antitripsina
Romanian	Alfa-1-antitripsină umană recombinantă (de uz respirator)	Tratamentul emfizemului pulmonar secundar deficitului congenital de alfa-1-antitripsină
Slovak	Rekombinantný humánny alfa-1-antitrypsín (respiračné použitie)	Liečba sekundárneho emfyzému pri vrodenej deficiencii alfa-1-antitrypsínu
Slovenian	Rekombinantni humani antitripsin alfa-1 (respiratorna uporaba)	Zdravljenje emfizema zaradi kongenitalnega pomanjkanja antitripsina alfa-1
Spanish	Alfa-1-antitripsina humana de origen recombinante	Tratamiento de enfisema pulmonar secundario a déficit congénito de alfa-1-antitripsina
Swedish	Rekombinant human alfa-1-antitrypsin	Behandling av emfysem till följd av medfödd brist på alfa-1-antitrypsin