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Committee for Orphan Medicinal Products

Public summary of opinion on orphan designation

Alpha-1 antitrypsin (inhalation use) for the treatment of emphysema secondary to congenital alpha-1 antitrypsin deficiency

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Rev.4: sponsor's name and address change	5 April 2013
Rev.5: transfer of sponsorship	12 September 2013
Rev.6: sponsor's change of address	4 February 2014
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.	

On 16 November 2004, orphan designation (EU/3/04/244) was granted by the European Commission to BCG (Europe) Ltd, United Kingdom, for alpha-one antitrypsin (inhalation use) for the treatment of the emphysema secondary to congenital alpha-1 antitrypsin deficiency.

The sponsorship was transferred to The Weinberg Group LLC, United Kingdom, in July 2007, then to The Weinberg Group Limited, United Kingdom, in April 2009 and subsequently to Innovative Drug European Associates Limited, United Kingdom, in May 2011.

In December 2012, Innovative Drug European Associates Limited changed name to IDEA Innovative Drug European Associates Limited.

The sponsorship was then transferred to Triskel EU Services Ltd., United Kingdom, in July 2013.

What is emphysema secondary to congenital alpha-1 antitrypsin deficiency?

Congenital alpha-1 antitrypsin deficiency is an inherited disease characterised by reduced levels in the blood of the substance alpha-1antitrypsin (AAT). This substance is a protein that is normally made by

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the liver and reaches other organs (such as the lungs) after being released into the blood circulation. Alpha-1 antitrypsin has the role of inactivating some substances such as elastase normally produced by the body. The action of elastase is to destroy certain molecules that form the lung tissue. AAT controls this action of elastase. If AAT is missing then the action of elastase is no longer opposed. In the long term, this may damage the lungs and cause a lung disease where air is abnormally accumulated in the tissue around the alveoli (the small cells containing the air in the lungs). Lung disease due to this deficiency is also called "hereditary emphysema" or emphysema secondary to congenital alpha-1 antitryspin deficiency. The condition is chronically debilitating and 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 not more than 2 in 10,000 people in the European Union (EU). This was equivalent to a total of not more than 93,000 people*, and is below the threshold for orphan designation, which is 5 people in 10,000. This is based on the information provided by the sponsor and knowledge of the Committee for Orphan Medicinal Products (COMP).

What treatments are available

Therapy for lung disease due to AAT deficiency includes the use of medicines to help breathing, or to help to clear mucus. Lung infections require treatment with antibiotics. Human AAT to be administered intravenously is authorised for replacement therapy of this condition. Oxygen may also be given in the more advanced stages and lung transplantation is used as a last resource.

Alpha-1 antitrypsin (inhalation use) might be of potential significant benefit for the treatment of emphysema secondary to congenital alpha-1 antitrypsin deficiency because of the different route of administration. 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?

Alpha-1 antitrypsin (inhalation use) is made into an aerosol, which the patient can inhale. In this way, the inhaled protein could reach the lungs where it is expected to provide the lacking AAT and thereby reduce the accumulated elastase. This action is expected to slow down the worsening of the lung disease.

What is the stage of development of this medicine?

The effects of alpha-1 antitrypsin (inhalation use) were evaluated in experimental models.

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.

Alpha-1 antitrypsin (inhalation use) was not marketed anywhere worldwide for the treatment of emphysema secondary to congenital alpha-1 antitrypsin deficiency or designated as orphan medicinal product elsewhere for this condition, at the time of submission.

*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 25), Norway, Iceland and Liechtenstein.
At the time of designation, this represented a population of 464,200,000 (Eurostat 2004).

In accordance with Regulation (EC) No 141/2000 of 16 December 1999, the COMP adopted a positive opinion on 7 October 2004 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	Alpha-1 antitrypsin (inhalation use)	Treatment of emphysema secondary to congenital alpha-1 antitrypsin deficiency
Bulgarian	Алфа-1 антитрипсин (за инхалаторно приложение)	Лечение на вторичен емфизем, вследствие на вродена алфа-1-антитрипсинова недостатъчност
Croatian	Alfa-1 antitripsin (u dišne puteve)	Liječenje sekundarnog emfizema zbog prirođenog manjka alfa-1 antitripsina
Czech	Alfa-1 antitrypsin (k inhalaci)	Léčba sekundárního emfyzemu při vrozeném deficitu alfa-1 antitrypsinu
Danish	Alpha-1 antitrypsin (til inhalation)	Behandling af emfysem som følge af medfødt alfa-1-antitrypsinmangel
Dutch	Alfa-1 antitrypsine (inhalatie)	Behandeling van emfyseem ten gevolge van aangeboren alfa-1-antitrypsine deficiëntie
Estonian	Alfa-1 antitrüpsiin (inhalatsiooniks)	Kaasasündinud alfa-1 antitrüpsiini puudulikkusest tingitud sekundaarse emfüseemi ravi
Finnish	Alfa-1 antitrypsiini (inhalaatioon)	Synnynnäisestä alfa-1-antitrypsiinin puutteesta johtuvan emfyseeman hoito
French	Alpha-1 antitrypsine (voie inhalée)	Traitement de l'emphysème lié à un déficit congénital en alpha-1-antitrypsine
German	Alpha-1 Antitrypsin (zur Inhalation)	Behandlung von Emphysem durch erblich bedingten Alpha-1 Antitrypsinmangel
Greek	Άλφα-1 αντιθρυψίνη (Χρήση δια εισπνοής)	Θεραπεία εμφυσήματος δευτερεύοντος σε συγγενή ανεπάρκεια άλφα-1 αντιθρυψίνης
Hungarian	Alfa-1 antitripszin (inhalációs alkalmazásra)	Kongenitális alfa-1 antitripszin hiány okozta emphysema kezelése
Italian	Alfa-1 antitripsina (per inalazione)	Trattamento dell'enfisema secondario a deficienza congenita di alfa-1 antitripsina
Latvian	Alfa-1 antitripsīns (inhalācijām)	Sekundāras emfizēmas ārstēšanai, ko izraisījusi iedzimta alfa-1 antitripsīna nepietiekamība
Lithuanian	Alfa-1 antitripsinas (inhaliacijoms)	Antrinės emfizemos gydymas dėl įgimtos alfa-1 antitripsino stokos
Maltese	Alpha-1 antitrypsin (għal biex jinġibed man-nifs)	Kura ta' l-emfisema sekondarja għal nuqqas konġenitu ta' l-alpha alpha-1-antitrypsin
Polish	Alfa-1-antytrypsyna (inhalacja)	Leczenie rozedmy wtórnej spowodowanej wrodzonym niedoborem alfa-1-antytrypsyny
Portuguese	Alfa-1 anti-tripsina (via inalatoria)	Tratamento de enfisema secundário para deficiência congênita de alfa-1 anti-tripsina
Romanian	Alfa-1 antitripsină (administrare inhalatorie)	Tratamentul emfizemului pulmonar secundar deficitului congenital de alfa-1-antitripsină
Slovak	Alfa-1 antitrypsín (inhalácia)	Liečba sekundárneho emfyzému pri vrodenom deficite alfa-1 antitrypsínu

[1] At the time of transfer of sponsorship

Language	Active Ingredient	Indication
Slovenian	Alfa-1 antitripsin (za inhalacijo)	Zdravljenje sekundarnega emfizema zaradi kongenitalnega pomanjkanja alfa-1 antitripsina
Spanish	Alfa-1-antitripsina (vía inhalatoria)	Tratamiento del enfisema secundario a déficit congénito de alfa-1-antitripsina
Swedish	Alpha-1 antitrypsin (användning för inhalation)	Behandling av emfysem sekundär till kongenital alpha-1 antitrypsin brist
Norwegian	Alpha-1 antitrypsin (til inhalasjon)	Behandling av emfysem sekundært til medfødt mangel av alpha-1 antitrypsin
Icelandic	Alfa-1 andtrypsín (til innöndunar)	Meðferð á lungnaþembu sem fylgikvilla meðfædds alfa-1 andtrypsínskorts