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Please note that this product was withdrawn from the Community Register of designated Orphan Medicinal Products in December 2008 on request of the Sponsor.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 2-(4-(diethylamino) phenyl)-6-methyl-2H-benzo[d][1,2,3] triazol-5-amine for the treatment of Duchenne muscular dystrophy

On 25 July 2006, orphan designation (EU/3/06/385) was granted by the European Commission to VASTox Plc, United Kingdom, for 2-(4-(diethylamino) phenyl)-6-methyl-2H-benzo[d][1,2,3] triazol-5-amine for the treatment of Duchenne muscular dystrophy.

What is Duchenne muscular dystrophy?
Duchenne muscular dystrophy is an inherited genetic disease, which usually starts before the age of 6 years. It is characterised by progressive weakness of the muscles, first involving the hips and legs, and later also the muscles of the chest and arms. Genes located on structures present in each cell of the body (the chromosomes) carry the information that characterises each individual. In humans, the so-called X and Y-chromosomes determine the sex (males have one X and one Y, females have 2 Xs), but carry also other genetic information. Duchenne muscular dystrophy is caused by an abnormality of a gene located on the X chromosome. This gene is responsible for the production of a protein, dystrophin, in the muscle cells. This means that patients suffering from this condition do not produce the dystrophin protein or produce a non-functional dystrophin. As boys, contrary to girls, only have one X chromosome, and thus one single copy of dystrophin gene, they have a much higher probability of suffering from Duchenne muscular dystrophy. Duchenne muscular dystrophy is a debilitating and life-threatening disease.

What is the estimated number of patients affected by the condition?
At the time of designation Duchenne muscular dystrophy affected approximately 0.5 in 10,000 persons 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 23,000 people.

What treatments are available?
At the time of submission of the application for orphan designation, no satisfactory method had been authorised in the European Union for treatment of the condition. Treatment of patients with Duchenne muscular dystrophy primarily involves physiotherapy as supportive treatments.

[*] 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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How is this medicine expected to work?
Utropin is a protein that has similar structure and function to that of dystrophin. It is thought that utrophin may replace the function of dystrophin that is lacking or non-functional in patients with Duchenne muscular dystrophy. The mechanism of action of 2-(4-(diethylamino) phenyl)-6-methyl-2H-benzo[d][1,2,3] triazol-5-amine was not fully demonstrated at the time of designation, but it is expected that this medicinal product increases the levels of utrophin and by doing that, decreases the symptoms of Duchenne muscular dystrophy.

What is the stage of development of this medicine?
The evaluation of the effects of 2-(4-(diethylamino) phenyl)-6-methyl-2H-benzo[d][1,2,3] triazol-5-amine in experimental models is ongoing.

At the time of submission of the application for orphan designation, no clinical trials in patients with Duchenne muscular dystrophy were initiated.

2-(4-(diethylamino) phenyl)-6-methyl-2H-benzo[d][1,2,3] triazol-5-amine was not authorised anywhere worldwide for Duchenne muscular dystrophy 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 15 June 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;
- either the rarity of the condition (affecting not more than 5 in 10,000 people in the Community) 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.

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

Language	Active Ingredient	Indication
English	2-(4-(diethylamino) phenyl)-6-methyl-2H-benzo[d][1,2,3] triazol-5-amine	Treatment of Duchenne muscular dystrophy
Czech	2-(4-(dietylamino) fenyl)-6-metyl-2H-benzo[d][1,2,3] triazol-5-amin	Léčba pacientů s Duchennovou muskulární dystrofií
Danish	2-(4-(diethylamin) fenyl)-6-methyl-2H-benzo[d][1,2,3] triazol-5-amin	Behandling af Duchenne muskeldystrofi
Dutch	2-(4-(diëthylamino)-fenyl)-6-methyl-2H-benzo[d][1,2,3]-triazool-5-amine	Behandeling van Duchenne spierdystrofie
Estonian	2-(4-(dietüülamino) fenüül)-6-metüül-2H-benso[d][1,2,3] triasool-5-amiin	Duchenne'i lihasdüstroofia ravi
Finnish	2-(4-(dietyyliamino) fenyyli)-6-metyyli-2H-bentso[d][1,2,3] triatsoli-5-amiini	Duchennen lihasdystrofian hoito
French	2-(4-(diéthylamino) phényl)-6-méthyl-2H-benzo[d][1,2,3] triazol-5-amine	Traitement de la dystrophie musculaire de Duchenne
German	2-(4-(Diethylamino)phenyl)-6-methyl-2H-benzo[d][1,2,3] triazol-5-amin	Behandlung der Duchenne-Muskeldystrophie
Greek	2-(4-(διαιθυλαμινο) φαινυλο)-6-μεθυλο-2Η-βενζο[d][1,2,3] τριαζολο-5-αμίνη	Θεραπεία της μυϊκής δυστροφίας Duchenne
Hungarian	2-(4-(dietil-amino)fenil)-6-metil-2H-benzo[d][1,2,3] triazol-5-amin	Duchenne dystrophia kezelése
Italian	2-(4-(dietilamino) fenil)-6-metil-2H-benzo[d][1,2,3] triazol-5-amina	Trattamento di distrofia muscolare di tipo Duchenne
Latvian	2-(4-(dietilamino)fenil)-6-metil-2H-benzo[d][1,2,3]triazol-5-amīns	Dišēna muskuļu distrofijas ārstēšana
Lithuanian	2-(4-(dietilamino)fenil)-6-metil-2Hbenzo[d][1,2,3]triazol-5-aminas	Duchenne (Diušeno) raumenų distrofijos gydymas
Polish	2-(4-(dietylamino) fenylo)-6-metylo-2H-benzo[d][1,2,3] triazolo-5-amina	Leczenie zaniku mięśni typu Duchenne'a
Portuguese	2-(4-(dietilamino) fenil)-6-metil-2H-benzo[d][1,2,3]triazol-5-amina	Tratamento da distrofia muscular de Duchenne
Slovak	2-[4-(dietylamino)fenyl]-6-metyl-2H-benzo[d][1,2,3] triazol-5-amín	Liečba Duchennovej muskulárnej dystrofie
Slovenian	2-(4-(dietilamino)fenil)-6-metil-2H-benzo[d][1,2,3]triazol-5-amin	Zdravljenje Duchennove mišične distrofije
Spanish	2-(4-(dietilamino) fenil)-6-metil-2H-benzo[d][1,2,3] triazol-5-amina	Tratamiento de la distrofia muscular de Duchenne
Swedish	2-(4-(dietylamin) fenyl)-6-metyl-2H-benzo[d][1,2,3] triazol-5-amin	Behandling av Duchennes muskeldystrofi
Norwegian	2-(4-(dietylamino) fenyl)-6-metyl-2H-benzo[d][1,2,3] triazol-5-amin	Behandling av Duchennes muskeldystrofi
Icelandic	2-(4-(tvíetýlamínó) fenýl)-6-metýl-2H-benzó[d][1,2,3] tríazól-5-amín	Meðferð á Duchenne vöðvarýrnun