9 October 2013
EMA/COMP/83/2004 Rev.3
Committee for Orphan Medicinal Products

Public summary of opinion on orphan designation

Adeno-associated viral vector expressing lipoprotein lipase for the treatment of lipoprotein lipase deficiency

First publication	5 May 2004
Rev.1: transfer of sponsorship	6 March 2007
Rev.2: sponsor's name change and information about Marketing Authorisation	4 December 2012
Rev.3: administrative update	9 October 2013
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 8 March 2004, orphan designation (EU/3/04/194) was granted by the European Commission to Mr Aart Brouwer, the Netherlands, for adeno-associated viral vector expressing lipoprotein lipase for the treatment of lipoprotein lipase deficiency.

The sponsorship was transferred to Amsterdam Molecular Therapeutics, The Netherlands, in December 2006.

In July 2012 Amsterdam Molecular Therapeutics changed name to uniQure biopharma B.V.

What is lipoprotein lipase deficiency?

Triglycerides are one of the basic chemical 'building blocks' from which fats are formed. Lipoprotein lipase (LPL) is the key enzyme in the use and transformation of triglyceride-rich lipoproteins and protects the human body against the excessive rise of triglycerides after every meal. Lipoprotein lipase is produced by skeletal muscle cells and excreted into the circulation where it awaits the triglycerides for breakdown.

LPL deficiency is an inherited condition that results in extremely high concentrations of circulating triglyceride-rich lipoproteins. LPL deficiency usually presents itself at infancy or childhood. It is chronically debilitating with typical complaints of severe abdominal pain, repetitive colicky pains, repeated episodes of pancreatitis (inflammation of the pancreas) and often 'failure-to-thrive'.

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

At the time of designation, lipoprotein lipase deficiency affected approximately 0.02 in 10,000 people in the European Union (EU). This was equivalent to a total of around 930 people*, and is below the ceiling for orphan designation, which is 5 people in 10,000. This is based on the information provided by the sponsor and the knowledge of the Committee for Orphan Medicinal Products (COMP).

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 LPL deficiency primarily involved restriction of dietary fat to less than 20% of total calories. The dietary regimen was difficult for patients to adhere to and there was, therefore, often recurrent pancreatitis in these patients.

How is this medicine expected to work?

Adeno-associated viral vector expressing lipoprotein lipase is a medicinal product which uses a virus to carry the gene necessary for the production of the enzyme lipoprotein lipase. A virus is a small organism capable of introducing genetic material in cells. The type of virus (adeno-associated virus) used in this medicinal product is modified not to cause any disease in humans.

What is the stage of development of this medicine?

The evaluation of the effects of adeno-associated viral vector expressing lipoprotein lipase in experimental models is on-going.

At the time of submission of the application for orphan designation, no clinical trials in patients with LPL deficiency had been initiated.

Adeno-associated viral vector expressing lipoprotein lipase was not marketed anywhere worldwide for lipoprotein lipase deficiency or designated as orphan medicinal product elsewhere for this condition, at the time of submission.

In accordance with Regulation (EC) No 141/2000 of 16 December 1999, the COMP adopted a positive opinion on 5 February 2004 recommending the granting of this designation.

Update: Glybera (Tradename) has been authorised in the EU since 25 October 2012. Glybera is indicated for adult patients diagnosed with familial lipoprotein lipase deficiency (LPLD) and suffering from severe or multiple pancreatitis attacks despite dietary fat restrictions. The diagnosis of LPLD has to be confirmed by genetic testing. The indication is restricted to patients with detectable levels of LPL protein.

More information on Glybera can be found in the European public assessment report (EPAR) on the Agency's website: ema.europa.eu/Find medicine/Human medicines/European Public Assessment Reports

* 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).

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	Adeno-associated viral vector expressing lipoprotein lipase	Treatment of lipoprotein lipase deficiency
Czech	Adenovirový vektor exprimující lipoproteinovou lipázu	Léčba deficitu lipoproteinové lipázy
Danish	Adenoassocieret viral vektor der udtrykker lipoprotein lipase	Behandling af lipoprotein lipase mangel
Dutch	Adeno-associated virale vector (AAV), die het lipoproteïne-lipase tot expressie brengt	Behandeling van lipoproteïne-lipase deficiëntie
Estonian	Lipoproteiinlipaasi ekspresseeriv adenoviirusega seotud viirusvektor	Lipoproteiinlipaasi puudulikkuse ravi
Finnish	Lipoproteiinilipaasia ekspressoiva adeno-assosioitunut virusvektori	Lipoproteiinilipaasin puutteen hoito
French	Vecteur viral Adeno-associé exprimant la lipoprotéine lipase	Traitement du déficit en lipoprotéine lipase
German	Adeno-assoziierter viraler vektor, der die lipoprotein-lipase exprimiert	Behandlung der lipoprotein-lipase Defizienz
Greek	Ειδικός αδενο-συσχετιζόμενος φορέας που εκφράζει τη λιποπρωτεϊνική λιπάση	Θεραπεία της έλλειψης λιποπρωτεϊνικής λιπάσης
Hungarian	Lipoprotein lipázt expresszáló adenovírus vektor	Lipoprotein lipáz hiány kezelése
Italian	Vettore virale Adeno-collegato che esprime la lipasi della lipoproteina	Trattamento della mancanza della lipoprotein lipasi
Latvian	Adeno-saistītais vīrusu vektors, kas ekspresē lipoproteīna lipāzi	Lipoproteīna lipāzes deficīta ārstēšana
Lithuanian	Vektorius, susijęs su adenovirusu, ekspresuojančiu lipoproteinlipazę	Lipoproteinlipazės stokos gydymas
Polish	Wirusowy wektor połączony adenozyną wyrażający lipazę proteinową	Leczenie niedoboru lipazy lipoproteinowej
Portuguese	Vector viral adeno-associado que expressa a lipoproteina lipase	Tratamento da deficiência em lipoproteina lipase

[1] At the time of transfer of sponsorship

Language	Active ingredient	Indication
Slovak	Adeno-asociovaný vírusový vektor pre expresiu lipoproteínovej lipázy	Liečba nedostatku lipoproteínovej lipázy
Slovenian	Na adenovirus vezan vektor za ekspresijo lipoproteinske lipaze	Zdravljenje pomanjkanja lipoproteinske lipaze
Spanish	Vector viral Adeno-asociado que expresa la lipoproteinlipasa	Tratamiento de la deficiencia de lipoproteinlipasa
Swedish	Adeno-associerad viral vektor som uttrycker lipoproteinlipas	Behandling av lipoproteinlipasbrist