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Committee for Orphan Medicinal Products

Public summary of opinion on orphan designation

Human C1 inhibitor for the treatment of angioedema caused by C1 inhibitor deficiency

Please note that this product was withdrawn from the Community Register of designated orphan medicinal products in April 2011 on request of the sponsor.

On 8 October 2009, orphan designation (EU/3/09/668) was granted by the European Commission to ViroPharma SPRL, Belgium, for human C1 inhibitor for the treatment of angioedema caused by C1 inhibitor deficiency.

What is angioedema caused by C1 inhibitor deficiency?

Angioedema is a disease characterised by attacks of swelling beneath the skin that can occur anywhere in the body, such as in the face, limbs, gut and larynx (voice box), causing discomfort and pain.

Angioedema can be caused by the deficiency (low levels) of 'C1 inhibitor', a protein in the blood that prevents the activation of some proteins involved in causing inflammation (swelling). The C1 inhibitor deficiency can be 'hereditary' or 'acquired'. Hereditary angioedema is caused by abnormalities in the gene responsible for the production of C1 inhibitor. Acquired angioedema is caused by conditions that increase the breakdown of C1 inhibitor such as cancer of the B cells (a type of white blood cell) and diseases where the body's own defence system attacks the C1 inhibitor protein.

Angioedema caused by C1 inhibitor deficiency is a long-term debilitating disease that may be life threatening because, when the swelling occurs in the larynx, it can obstruct the airways and impede breathing.

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

At the time of designation, angioedema caused by C1 inhibitor deficiency affected approximately 2.1 in 10,000 people in the European Union (EU)[*]. This is equivalent to a total of around 106,000 people, and is below the threshold for orphan designation, which is 5 people in 10,000. This is based on the

[*]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 27), Norway, Iceland and Liechtenstein. This represents a population of 504,800,000 (Eurostat 2009).

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information provided by the sponsor and knowledge of the Committee for Orphan Medicinal Products (COMP).

What treatments are available?

At the time of designation, several medicines were authorised in the EU for the treatment of angioedema. These included medicines containing human C1 inhibitor, which were authorised in some EU countries for the treatment and prevention of angioedema, and icatibant, which was authorised in all EU countries to treat attacks of hereditary angioedema.

The sponsor has provided sufficient information to show that human C1 inhibitor might be of significant benefit for patients with angioedema caused by C1 inhibitor deficiency because it may offer a wider availability than some of existing treatments, which could result in a major contribution to patient care. In addition, the properties of the product, with regards to its duration of action, might offer a clinically relevant advantage over some authorised products. This assumption will need to be confirmed at the time of marketing authorisation, in order to maintain the orphan status.

How is this medicine expected to work?

Human C1 inhibitor is extracted from human plasma (the liquid part of the blood) obtained from blood donors and is expected to work by increasing the levels of the C1 inhibitor protein in patients with angioedema. The C1 inhibitor protein is then expected to prevent the activation of proteins in the blood that are involved in inflammation. By inhibiting these proteins, human C1 inhibitor may reduce the symptoms of angioedema caused by C1 inhibitor deficiency.

What is the stage of development of this medicine?

The effects of human C1 inhibitor have been evaluated in experimental models.

At the time of submission of the application for orphan designation, clinical trials in patients with angioedema caused by C1 inhibitor deficiency were ongoing.

At the time of submission, this human C1 inhibitor was not authorised anywhere in the EU for angioedema caused by C1 inhibitor deficiency. Orphan designation of human C1 inhibitor had been granted in the United States of America for routine prophylaxis (preventative treatment) of hereditary angioedema.

In accordance with Regulation (EC) No 141/2000 of 16 December 1999, the COMP adopted a positive opinion on 8 July 2009 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 European Union) 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	Human C1-inhibitor	Treatment of angioedema caused by C1 inhibitor deficiency
Bulgarian	Човешки C1-инхибитор	Лечение на ангиоедема, причинена от недостатъчност на C1 инхибитор
Czech	Lidský C1 inhibitor	Léčba angioedému způsobeného deficitem C inhibitoru
Danish	Human C1-inhibitor	Behandling af angioødem forårsaget af mangel på C1 inhibitor
Dutch	Humaan C1-inhibitor	Behandeling van angio-oedeem veroorzaakt door C1 inhibitor deficiëntie.
Estonian	Inimese C1-inhibiitor	C1 inhibiitori puudulikkusest tingitud angioödeemi ravi
Finnish	Ihmisen C1-estäjä	C1-estäjän puutteen aiheuttaman angioedeeman hoito
French	Inhibiteur C1 humain	Traitement de l'oedème angioneurotique lié à un déficit en inhibiteur C1
German	Humaner C1-Inhibitor	Behandlung eines durch C1-Inhibitor Mangel bedingten Angioödems
Greek	Ανθρώπινος αναστολέας της C1	Θεραπεία αγγειακού οιδήματος που προέρχεται από ανεπάρκεια αναστολέα C1.
Hungarian	Humán C1-inhibitor	C1-inhibitor hiány okozta angioedema kezelése
Italian	C1-inibitore umano	Trattamento dell angioedema causato da deficit del C1-inibitore
Latvian	Cilvēka C1 inhibitors	Angioedēmas ārstēšana, ko izraisījis C1 inhibitora trūkums
Lithuanian	Žmogaus C1 inhibitorius	Angioedemos, sukeltos C1 inhibitoriaus stokos, gydymas
Maltese	Inibitur Ċ1 uman	Kura ta' l-anġoedema ikkawżata minn nuqqas ta' inibitur tat-tip Ċ1
Polish	Ludzki inhibitor C1	Leczenie obrzęku naczynioruchowego spowodowanego niedoborem inhibitora C1
Portuguese	Inibidor C1- humano	Tratamento de angioedema causado por deficiência de inibidor C1
Romanian	Inhibitor C1 uman	Tratamentul angioedemului determinat de deficitul de inhibitor C1
Slovak	Ľudský C1 inhibítor	Liečba angioedému vyvolaného nedostatkom C1 inhibítora
Slovenian	Človeški inhibitor C1	Zdravljenje angioedema zaradi pomanjkanja inhibitorja C-1
Spanish	Inhibidor C1 humano	Tratamiento del angioedema causado por deficiencia del inhibidor C1

[1] At the time of designation

Language	Active ingredient	Indication
Swedish	Human C1-inhibitor	Behandling av angioödem orsakat av C1 inhibitor brist
Norwegian	Human C1-inhibitor	Behandling av angioødem forårsaket av C1-inhibitormangel
Icelandic	Manna-C1-hemill	Meðferð ofsabjúgs af völdum skorts á C1-hemli