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Committee for Orphan Medicinal Products

Public summary of opinion on orphan designation

Recombinant kallikrein inhibitor for the treatment of Netherton syndrome

On 29 January 2010, orphan designation (EU/3/09/712) was granted by the European Commission to Voisin Consulting S.A.R.L., France, for recombinant kallikrein inhibitor for the treatment of Netherton syndrome.

The sponsorship was transferred to Dermadis S.A.S., France, in January 2012.

What is Netherton syndrome?

Netherton syndrome is an inherited skin disease. Babies born with the syndrome have red and scaly skin, which can easily get infected, and they fail to thrive in their first years of life. They also have abnormal 'bamboo-type' hair.

Netherton syndrome is caused by a genetic abnormality in one chromosome that is responsible for the production of an enzyme called LEKTI, which controls the activity of 'kallikreins'. Kallikreins are involved in skin 'desquamation', the process through which the surface of the skin gets regularly renewed. Too much kallikrein leads to the skin problems seen in Netherton syndrome.

Netherton syndrome is a long-term debilitating and life-threatening condition because of the skin infections it is associated with, the changes to the physical appearance of the patients and their effects on the patients' mental state.

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

At the time of designation, Netherton syndrome affected approximately 0.05 in 10,000 people in the European Union (EU)*. This is equivalent to a total of around 2,500 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).

*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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What treatments are available?

At the time of submission for orphan designation, there were no medicines authorised in the EU for the treatment of Netherton syndrome; however, one medicine was authorised for the treatment of severe congenital ichthyosis (a group of genetic skin diseases that cause dry, thickened and scaly skin). Other treatment methods include the application of emollients (substances that soften or smooth the skin) and steroids (anti-inflammatory medicines) on the skin.

The sponsor has provided sufficient information to show that recombinant kallikrein inhibitor might be of significant benefit for patients with Netherton syndrome because it may improve the treatment of patients by restoring control over the activity of kallikreins. 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?

Recombinant kallikrein inhibitor is a copy of a natural enzyme, alpha1-antichymotrypsin, that has been slightly modified to make it able to block the activity of kallikreins. The product is expected to be applied directly to the skin of patients, where it will replace the enzyme LEKTI, which is not working in patients with Netherton syndrome. This is expected to help provide the means of controlling kallikreins and to relieve the skin symptoms associated with the syndrome.

What is the stage of development of this medicine?

The effects of recombinant kallikrein inhibitor have been evaluated in experimental models.

At the time of submission of the application for orphan designation, no clinical trials with the designated product in patients with Netherton syndrome had been started.

At the time of submission, recombinant kallikrein inhibitor was not authorised anywhere in the EU for Netherton syndrome or designated as an orphan medicinal product elsewhere for this condition.

In accordance with Regulation (EC) No 141/2000 of 16 December 1999, the COMP adopted a positive opinion on 5 November 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 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.

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, Norwegian and Icelandic

Language	Active ingredient	Indication
English	Recombinant kallikrein inhibitor	Treatment of Netherton syndrome
Bulgarian	Рекомбиниран каликреин инхибитор	Лечение на синдрома на Netherton
Czech	Rekombinantní inhibitor kalikreinu	Léčba Nethertonova syndromu
Danish	Rekombinant kallikrein inhibitor	Behandling af Nethertons syndrom
Dutch	Recombinante kallikrein inhibitor	Behandeling van het syndroom van Netherton
Estonian	Rekombinantne kallikreiini inhibiitor	Nehtertoni sündroomi ravi
Finnish	Rekombinanttitekniikalla tuotettu kallikreiiniin estäjä	Nethertonin oireyhtymän hoito
French	Inhibiteur recombinant des kallicréines	Traitement du syndrome de Netherton
German	Rekombinanter Kallikrein Inhibitor	Behandlung des Netherton Syndroms
Greek	Ανασυνδυασμένος αναστολέας καλλικρεινών	Θεραπεία του συνδρόμου Netherton
Hungarian	Rekombináns kallikrein inhibitor	Netherton szindróma kezelése
Italian	Inibitore ricombinante delle callicreine	Trattamento della sindrome di Netherton
Latvian	Rekombinēts kalikreīna inhibitors	Netertona sindroma ārstēšana
Lithuanian	Rekombinantinis kalikreino inhibitorius	Nethertono sindromo gydymas
Maltese	Inibitur tal-kallikrein rikombinanti	Kura tas-sindrome ta' Netherton
Polish	Rekombinowany inhibitor kalikreiny	Leczenie zespołu Nethertona
Portuguese	Inibidor recombinante da calicreína	Tratamento da síndrome de Netherton
Romanian	Inhibitor recombinant alkalicreinei	Tratamentul sindromului Netherton
Slovak	Rekombinantný inhibítor kalikreínu	Liečba Nethertonovho syndrómu
Slovenian	Rekombinantni inhibitor kalikreina	Zdravljenje Nethertonovega sindroma
Spanish	Inhibidor recombinante de la calicreína	Tratamiento del síndrome de Netherton
Swedish	Rekombinant kallikrein-inhibitor	Behandling av Nethertons syndrom
Norwegian	Rekombinant kallikrein-inhibitor	Behandling av Nethertons syndrom
Icelandic	Raðbrigða kallikrein hemill	Meðhöndlun á Netherton heilkenni