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EMA/COMP/336095/2017

Public summary of opinion on orphan designation

Recombinant human factor IX protein modified with three point mutations for the treatment of haemophilia B

On 20 June 2017, orphan designation (EU/3/17/1884) was granted by the European Commission to Voisin Consulting S.A.R.L., France, for recombinant human factor IX protein modified with three point mutations (also known as CB 2679d or ISU304) for the treatment of haemophilia B.

What is haemophilia B?

Haemophilia B is an inherited bleeding disorder that is caused by the lack of factor IX, which is one of the proteins involved in the blood coagulation (clotting) process. Patients with haemophilia B are more prone to bleeding than normal and have poor wound healing after injury or surgery. Bleeding can also happen within muscles or the spaces in the joints, such as the elbows, knees and ankles. This can lead to permanent injury if it happens repeatedly.

Haemophilia B is a debilitating disease that is life long and may be life threatening because bleeding can also happen in the brain and spinal cord, the throat or the gut.

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

At the time of designation, haemophilia B affected approximately 0.25 in 10,000 people in the European Union (EU). This was equivalent to a total of around 13,000 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 designation, medicines containing factor IX were authorised in the EU for the treatment of haemophilia B, to replace the missing protein. However, factor IX medicines did not work in some patients with haemophilia B because the immune system (the body's natural defences) can produce 'inhibitors' (antibodies) against factor IX which stop the factor IX medicine from working. In these

*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 28), Norway, Iceland and Liechtenstein. This represents a population of 515,700,000 (Eurostat 2017).

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cases, other treatments needed to be used, such as factor VIIa (the activated form of factor VII, another protein involved in blood clotting), either alone or as part of a combination treatment.

The sponsor has provided sufficient information to show that this medicine might be of significant benefit for patients with haemophilia B. Data from laboratory studies showed that the medicine, which is given daily by injection under the skin, can improve clotting to a similar degree as current treatments which have to be given by injection into a vein, and that this represents a major contribution to patient care. 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?

This medicine contains a version of factor IX, the protein lacking in patients with haemophilia B. This protein has been engineered to enhance its clotting activity and to increase the length of time it remains in the body. After being given to the patient as an injection under the skin, the factor IX is expected to pass into the blood where it can replace the missing protein and so control the bleeding disorder.

What is the stage of development of this medicine?

The effects of the medicine have been evaluated in experimental models.

At the time of submission of the application for orphan designation, no clinical trials with the medicine in patients with haemophilia B had been started.

At the time of submission, the medicine was not authorised anywhere in the EU for haemophilia B 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 12 May 2017 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:

Contact details of the current sponsor for this orphan designation can be found on EMA website, on the medicine's rare disease designations page.

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	Recombinant human factor IX protein modified with three point mutations	Treatment of haemophilia B
Bulgarian	Рекомбинантен човешки фактор IX протеин модифицран с триточкови мутации	Лечение на хемофилия B
Croatian	Rekombinantni humani faktor IX protein modificiran s tri točkaste mutacije	Liječenje hemofilije B
Czech	Reekombinantní protein lidského faktoru IX modifikovaný třemi bodovými mutacemi	Léčba hemofilie B
Danish	Rekombinant human faktor IX protein, modificeret med tre punkt mutationer	Behandling af hæmofili B
Dutch	Recombinant humaan factor IX proteïne gemodifiëerd met drie puntmutaties	Behandeling van hemofilie B
Estonian	Kolme punktmutatsiooniga motifitseeritud rekombinantne inimese IX hüübimisfaktori valk	Hemofiilia B ravi
Finnish	Rekombinantti ihmisen hyytymistekijä IX proteiini, jota on muokattu kolmella pistemutaatiolla	Hemofilia B:n hoito
French	Facteur recombinant humain IX modifie avec trois points de mutations	Traitement de l'hémophilie B
German	Recombinantes humanes Faktor IX Protein, das mit 3 Punktmutationen modifiziert ist	Behandlung der Hämophilie B
Greek	Ανασυνδυασμένος ανθρώπινος παράγοαντας IX τροποποιημένος με τρεις σημειακές μεταλλαγές	Θεραπεία της αιμορροφιλίας B
Hungarian	Hárompontos mutációval módosított rekombináns humán faktor IX fehérje	B típusú hemofília kezelése
Italian	Fattore IX umano ricombinante modificato con tre mutazioni puntiformi	Trattamento dell'emofilia B
Latvian	Rekombinants cilvēka IX faktora proteīns, kas modificēts ar trīs punktveida mutācijām	B tipa hemofilijas ārstēšana
Lithuanian	Rekombinantinis žmogaus IX faktoriaus baltymas, modifikuotas trijų taškinių mutacijų	Hemofilijos B gydymas
Maltese	Proteina IX ta' fattur uman rikombinanti modifikata bi tliet punti ta' mutazzjoni	Kura ta' l-emofilja B
Polish	Rekombinowane ludzkie białko czynnika IX zmodyfikowane trzema punktowymi mutacjami	Leczenie hemofilii B
Portuguese	Proteína recombinante do fator IX da coagulação humana modificada com três mutações pontuais	Tratamento da hemofilia B
Romanian	Factor IX recombinant uman modificat cu trei mutaţii punctiforme	Tratamentul hemofiliei B
Slovak	Rekombinantný ľudský faktor IX modifikovaný tromi bodovými mutáciami	Liečba hemofílie B

[1] At the time of designation

Language	Active ingredient	Indication
Slovenian	Recombinantni humani faktor IX modificiran z mutacijami na treh mestih	Zdravljenje hemofilije B
Spanish	Proteína recombinante del factor IX de coagulaçion humana modificada con tres mutaçiones ponctuales	Tratamiento de la hemofilia B
Swedish	Rekombinant human factor IX protein modifierat med tre punktmutationer.	Behandling av hemofili B
Norwegian	Rekombinant human faktor IX protein modifisert med tre punktmutasjoner	Behandling av hemofili B
Icelandic	Raðbrigða manna factor IX umbreyttur með þremur punkt stökkbreytingum	Meðferð við dreyrasýki B