



EUROPEAN MEDICINES AGENCY
SCIENCE MEDICINES HEALTH

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Committee for Orphan Medicinal Products

Public summary of opinion on orphan designation

Pagibaximab for the prevention of sepsis caused by Gram-positive pathogens in premature infants less than or equal to 34 weeks of gestational age

Please note that this product was withdrawn from the Community Register of designated orphan medicinal products in January 2012 on request of the sponsor.

On 9 June 2010, orphan designation (EU/3/10/743) was granted by the European Commission to Omnicare Clinical Research GmbH, Germany, for pagibaximab for the prevention of sepsis caused by Gram-positive pathogens in premature infants less than or equal to 34 weeks of gestational age.

Omnicare Clinical Research GmbH changed its name to Theorem Clinical Research GmbH in July 2011.

What is sepsis caused by Gram-positive pathogens in premature infants less than or equal to 34 weeks of gestational age?

Sepsis is a severe condition in which bacteria and their toxins circulate in the blood and start to damage the organs. Premature babies born six or more weeks too early (34 weeks or less of gestational age) have a higher risk of developing sepsis in their first month of life. This is because their immune systems (the body's natural defences) are not yet fully developed, and they need invasive procedures, such as mechanical ventilation (using a machine to help them to breathe) or feeding by injection, which puts them at a higher risk of infections in neonatal intensive care units. Sepsis is most often caused by types of bacteria that are classified as 'Gram-positive', which include coagulase-negative staphylococci and *Staphylococcus aureus*.

Sepsis caused by Gram-positive bacteria is a life-threatening condition that is one of the causes of high mortality in premature infants less than or equal to 34 weeks of gestational age.



What is the estimated number of patients at risk of developing the condition?

At the time of designation, the number of premature babies born at 34 weeks of gestational age or less was estimated to be between 3.9 and 4.5 people in 10,000 in the European Union (EU)*. This is equivalent to a total of between 198,000 and 228,000 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 the knowledge of the Committee for Orphan Medicinal Products (COMP).

What methods of prevention are available?

At the time of designation, no satisfactory methods were authorised in the EU for the prevention of this condition. Common infection-control measures, such as washing hands, are used to keep the infection rate as low as possible in neonatal intensive care units. In addition, feeding with breast milk was recommended to reduce the risk of infections. In some cases, antibiotics were given as preventative measure.

How is this medicine expected to work?

Pagibaximab is a monoclonal antibody (a type of protein) that has been designed to recognise and attach to a main component of the cell wall of Gram-positive pathogens called 'lipoteichoic acid' (LTA), which plays a key role in causing sepsis. By attaching to LTA, pagibaximab is expected to block the activity of LTA, preventing the bacteria from causing sepsis.

What is the stage of development of this medicine?

The effects of pagibaximab have been evaluated in experimental models.

At the time of submission of the application for orphan designation, a study with pagibaximab in neonates was ongoing.

At the time of submission, pagibaximab was not authorised anywhere in the EU for the prevention of sepsis caused by Gram-positive pathogens in premature babies born at 34 weeks of gestational age or less. Orphan designation of pagibaximab had been granted in the United States of America for the prevention of *Staphylococcus epidermidis* sepsis in babies with a birth weight of 1.5 kg or less.

In accordance with Regulation (EC) No 1411/2000 of 16 December 1999, the COMP adopted a positive opinion on 3 March 2010 recommending the granting of this 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;

*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 506,500,000 (Eurostat 2010).

- 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 languages¹, Norwegian and Icelandic

Language	Active ingredient	Indication
English	Pagibaximab	Prevention of sepsis caused by Gram positive pathogens in premature infants less than or equal to 34 weeks of gestational age
Bulgarian	Пагибаксимаб	Превенция на сепсис, причинен от Грам-позитивни патогени, при преждевременно родени бебета в или преди 34-та гестационна седмица
Czech	Pagibaximab	Prevence Gram pozitivní u předčasně narozených dětí v 34. týdnu těhotenství či dříve
Danish	Pagibaximab	Forebyggelse af sepsis forårsaget af grampositive patogener hos præmature spædbørn født før eller i 34. gestationsuge
Dutch	Pagibaximab	Preventie van sepsis veroorzaakt door gram-positieve pathogenen in premature zuigelingen met een zwangerschapsleeftijd van minder of gelijk aan 34 weken
Estonian	Pagibaximab	Gram-positiivsete patogeenide poolt põhjustatud sepsise ennetamine enneaegsetel imikutel, kes on sündinud 34. rasedusnädalal või varem
Finnish	Pagibaksimabi	Sikiöiältään enintään 34-viikkoisten keskosten Gram-positiivisten patogeenien aiheuttaman sepsiksen ehkäisy
French	Pagibaximab	Prévention de la septicémie causée par des pathogènes à Gram positif chez les nouveau-nés prématurés de 34 semaines ou moins d'âge gestationnel
German	Pagibaximab	Prävention einer durch grampositive Erreger verursachten Sepsis bei Frühgeborenen mit einem Gestationsalter von bis zu 34 Wochen
Greek	Pagibaximab	Πρόληψη της σήψης από θετικά κατά Gram παθογόνα σε πρόωρα βρέφη με κυητική ηλικία μικρότερη ή ίση από 34 εβδομάδες.
Hungarian	Pagibaximab	Gram-pozitív patogének okozta szepszis prevenciója 34-hetes vagy fiatalabb gesztációs korú koraszülötteknél
Italian	Pagibaximab	Prevenzione della sepsi da patogeni Gram-positivi in neonati prematuri di ≤ 34 settimane d'età gestazionale
Latvian	Pagibaksimabs	Gram-pozitīvu patogēnu izraisītas sepses profilakse jaundzimušiem ar gestācijas vecumu mazāku vai vienādu ar 34 nedēļām
Lithuanian	Pagibaksimabas	Gramteigiamų sukėlėjų sukulto sepsio profilaktika neišnešiotiems naujagimiams, 34 ar mažiau savaičių gestacinio amžiaus
Maltese	Pagibaximab	Prevenzjoni ta' sepsis ikkawżata minn patoġeni Gram pożittivi fi trabi prematuri li jkollhom età inqas minn jew sa 34 ġimgħa ta' tqala
Polish	Pagibaksymab	Zapobieganie sepsie wywołanej przez bakterie Gram- dodatnie u wcześniaków urodzonych przed lub w 34 tygodniu ciąży
Portuguese	Pagibaximab	Prevenção de Sepsis causada por microrganismos Gram +, em prematuros com 34 semanas ou menos, de idade de gestação

¹ At the time of designation

Language	Active ingredient	Indication
Romanian	Pagibaximab	Prevenirea sepsisului produs de bacteriile Gram-pozitive la nou-născuții prematuri cu vârsta gestațională mai mică sau egală cu 34 de săptămâni.
Slovak	Pagibaximab	Prevenia sepsy vyvolanej grampozitívnymi patogénmi u predčasne narodených detí s gestačným vekom 34 týždňov alebo menej
Slovenian	Pagibaksimab	Preprečevanje z grampozitivnimi patogeni povzročene sepse pri novorojenčkih gestacijske starosti 34 tednov ali manj
Spanish	Pagibaximab	Prevención de la sepsis por patógenos Gram positivos en neonatos prematuros de edad gestacional igual o inferior a 34 semanas
Swedish	Pagibaximab	Prevention av grampositiv sepsis hos prematura spädbarn med en gestationsålder ≤ 34 veckor
Norwegian	Pagibaximab	Forebygging av sepsis forårsaket av Gram-positive patogener hos premature spedbarn med gestasjonsalder ≤ 34 uker
Icelandic	Pagibaximab	Fyrirbyggjandi meðferð gegn sýklasótt af völdum Gram jákvæðra baktería hjá fyrirburum eftir ≤ 34 vikna meðgöngu