



EUROPEAN MEDICINES AGENCY  
SCIENCE MEDICINES HEALTH

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Committee for Orphan Medicinal Products

## Public summary of opinion on orphan designation

### Ramucirumab for the treatment of hepatocellular carcinoma

On 4 July 2012, orphan designation (EU/3/12/1019) was granted by the European Commission to Eli Lilly Nederland B.V., the Netherlands, for ramucirumab for the treatment of hepatocellular carcinoma.

#### What is hepatocellular carcinoma?

Hepatocellular carcinoma is a primary cancer of the liver (a cancer that starts in the liver, rather than a cancer that has spread to the liver from elsewhere in the body). It is more common in men than in women, and occurs mostly in people who have scarring of the liver (cirrhosis) or after infection with the hepatitis B or C viruses. Symptoms of the disease include pain and swelling in the abdomen, weight loss, weakness, loss of appetite and nausea (feeling sick).

Hepatocellular carcinoma is a serious and life-threatening illness that is associated with poor overall survival.

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

At the time of designation, hepatocellular carcinoma affected approximately 1 in 10,000 people in the European Union (EU)\*. This is equivalent to approximately 51,000 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, some patients with early stage hepatocellular carcinoma were treated with surgery to remove part of the liver. Chemotherapy (medicines to treat cancer) was generally used after surgery or on its own if surgery was not possible or the disease had spread to other parts of the body. Several chemotherapy medicines were authorised in the EU for use in hepatocellular carcinoma, such as sorafenib, doxorubicin, epirubicin, mitoxantrone, mitomycin and fluorouracil.

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\*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 506,300,000 (Eurostat 2011).



The sponsor has provided sufficient information to show that ramucirumab might be of significant benefit for patients with hepatocellular carcinoma because, when given together with chemotherapy, it may work better than existing treatments alone and because early studies suggest it can improve the symptoms of patients whose tumours could not be removed by surgery. 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?**

Ramucirumab is a monoclonal antibody (a type of protein) that has been designed to recognise and attach to a receptor called 'vascular endothelial growth factor receptor' (VEGFR), found on the surface of cancer cells. It thereby blocks the action of vascular endothelial growth factor (VEGF), which is present at high levels in liver tumours and is responsible for the development of new blood vessels that supply the tumours. This slows down the growth of cancer cells by reducing their blood supply.

### **What is the stage of development of this medicine?**

The effects of ramucirumab have been evaluated in experimental models.

At the time of submission of the application for orphan designation, clinical trials with ramucirumab in patients with hepatocellular carcinoma were ongoing.

At the time of submission, ramucirumab was not authorised anywhere in the EU for hepatocellular carcinoma. Orphan designation of ramucirumab had been granted in the United States of America for hepatocellular carcinoma.

In accordance with Regulation (EC) No 141/2000 of 16 December 1999, the COMP adopted a positive opinion on 11 May 2012 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:

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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<sup>1</sup>, Norwegian and Icelandic

Language	Active ingredient	Indication
English	Ramucirumab	Treatment of hepatocellular carcinoma
Bulgarian	Рамуцирумаб	Лечение на хепатоцелуларен карцином
Czech	Ramucirumab	Léčba hepatocelulárního karcinomu
Danish	Ramucirumab	Behandling af hepatocellulært karcinom
Dutch	Ramucirumab	Behandeling van hepatocellulair carcinoom
Estonian	Ramucirumab	Hepatotsellulaarse kartsinoomi ravi
Finnish	Ramucirumabi	Hepatosellulaarisen karsinooman hoito
French	Ramucirumab	Traitement du cancer hépatocellulaire
German	Ramucirumab	Behandlung des Leberzellkarzinoms
Greek	Ραμουσιρουμάμπη	Θεραπεία του ηπατοκυτταρικού καρκινώματος
Hungarian	Ramucirumab	Hepatocelluláris carcinoma kezelése
Italian	Ramucirumab	Trattamento del carcinoma epatozellulare
Latvian	Ramucirumabs	Hepatocellulāras karcinomas ārstēšana
Lithuanian	Ramucirumabas	Hepatoceliulinės karcinomos gydymas
Maltese	Ramucirumab	Kura tal-karċinoma epatoċellulari
Polish	Ramucirumab	Leczenie raka wątrobowokomórkowego
Portuguese	Ramucirumab	Tratamento do carcinoma hepatocelular
Romanian	Ramucirumab	Tratamentul carcinomului hepatocelular
Slovak	Ramucirumab	Liečba hepatocelulárneho karcinómu
Slovenian	Ramucirumab	Zdravljenje hepatocelularnega karcinoma
Spanish	Ramucirumab	Tratamiento del carcinoma hepatocelular
Swedish	Ramucirumab	Behandling av hepatocellulärt karcinom
Norwegian	Рамуцирумаб	Behandling av hepatocellulært karsinom
Icelandic	Ramucirumab	Meðferð við lifrarfrumukrabbameini

<sup>1</sup> At the time of designation