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EMA/COMP/449076/2016
Committee for Orphan Medicinal Products

Public summary of opinion on orphan designation

Mifamurtide for the treatment of hepatocellular carcinoma

On 14 July 2016, orphan designation (EU/3/16/1700) was granted by the European Commission to Delta Proteomics SAS, France, for mifamurtide 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 one 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 liver scarring (cirrhosis) or after hepatitis B or C infection. Features of the disease include yellow skin, pain and swelling in the abdomen, easy bruising, weight loss, weakness, loss of appetite and nausea.

Hepatocellular carcinoma is long-term debilitating and life-threatening, with patients surviving on average for around 6 to 20 months after diagnosis.

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

At the time of designation, hepatocellular carcinoma affected approximately 1.6 in 10,000 people in the European Union (EU). This was equivalent to a total of around 82,000 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 or radiofrequency ablation (directing heat and electricity through a needle to destroy cancer cells). Chemotherapy (medicines to treat cancer) was generally used if surgery was not possible or the disease had spread to other parts of the body (metastatic disease). Nexavar (sorafenib) was authorised in the EU for use in hepatocellular carcinoma.

^{*}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 513,700,000 (Eurostat 2016).

The sponsor has provided sufficient information to show that mifamurtide might be of significant benefit for patients with hepatocellular carcinoma based on the results in experimental models which suggested that it helps to reduce remaining cancer cells after 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?

Mifamurtide is expected to work by activating macrophages (a type of white blood cells) and other components of the body's immune (defence) system that help to destroy foreign cells and abnormal body cells such as cancer cells. The mifamurtide in this medicine is contained between layers of fat-based substances. Mifamurtide is released slowly as these fatty layers break down in the cells. Therefore, mifamurtide might have a long-lasting effect against cancer cells in patients with hepatocellular carcinoma.

What is the stage of development of this medicine?

The effects of mifamurtide 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 hepatocellular carcinoma had been started.

At the time of submission, mifamurtide was authorised in the EU for severe osteosarcoma (a type of bone cancer).

At the time of submission, the medicine was not authorised anywhere in the EU for hepatocellular carcinoma 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 16 June 2016 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;
- 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 languages¹, Norwegian and Icelandic

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

¹ At the time of designation