21 January 2013
EMA/COMP/744111/2012
Committee for Orphan Medicinal Products

Public summary of opinion on orphan designation

Maytansinoid-conjugated human monoclonal antibody against mesothelin for the treatment of malignant mesothelioma

On 6 December 2012, orphan designation (EU/3/12/1073) was granted by the European Commission to Bayer Pharma AG, Germany, for maytansinoid-conjugated human monoclonal antibody against mesothelin for the treatment of mesothelioma.

What is malignant mesothelioma?

Malignant mesothelioma is a cancer that affects the mesothelial cells (found on the inner linings of the organs), mainly the pleura (the lining of the lungs) and the peritoneum (the lining of the abdominal cavity). It is usually caused by exposure to asbestos. Mesothelioma of the pleura causes difficulty breathing and chest pain, and mesothelioma of the peritoneum causes ascites (a build-up of fluid in the abdomen) and abdominal pain. Because the symptoms are not specific, the cancer is often detected at a late stage.

Malignant mesothelioma is life-threatening because it may lead to bowel obstruction or breathing problems and lung infections. Patients have very poor survival, only living for a year, on average, after diagnosis.

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

At the time of designation, malignant mesothelioma affected not more than 0.3 in 10,000 people in the European Union (EU)[*]. This is equivalent to a total of not more than 15,000 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, the main treatment for malignant mesothelioma was surgery followed by chemotherapy (medicines to treat cancer) or radiotherapy (treatment with radiation). If the disease

[*]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).

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was too advanced for surgery, chemotherapy alone was used. One medicine, pemetrexed, was authorised in the EU for the treatment of malignant pleural mesothelioma.

The sponsor has provided sufficient information to show that the medicine might be of significant benefit for patients with malignant mesothelioma because it acts in a different way to existing treatments by targeting the mesothelioma cells which might improve the treatment of patients when used alone or in combination with other medicines. This assumption will need to be confirmed at the time of marketing authorisation, in order to maintain orphan status.

How is this medicine expected to work?

This medicine is made up of two components:

- a monoclonal antibody, a type of protein that has been designed to recognise and attach to a naturally occurring protein called 'mesothelin'. Mesothelin is a protein that is found in large amounts on the surface of cancer cells, such as the cells in malignant mesothelioma;
- a maytansinoid, a substance that kills cells by preventing cell division.

This medicine is expected to target mesothelioma cells by attaching to mesothelin. Once the medicine is attached to these cells, it is expected to be taken inside the cells and to release the maytansinoid, which blocks cell division. This is expected to slow down the growth of the mesothelioma.

What is the stage of development of this medicine?

The effects of the medicinal product have been evaluated in experimental models.

At the time of submission of the application for orphan designation, clinical trials with this medicine in patients with malignant mesothelioma were ongoing.

At the time of submission, the medicinal product was not authorised anywhere in the EU for malignant mesothelioma. Orphan designation had been granted in the United States of America for mesothelioma.

In accordance with Regulation (EC) No 141/2000 of 16 December 1999, the COMP adopted a positive opinion on 7 November 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[1], Norwegian and Icelandic

Language	Active substance	Indication
English	Maytansinoid-conjugated human monoclonal antibody against mesothelin	Treatment of malignant mesothelioma
Bulgarian	Мейтанзиноид-конюгирано човешко моноклонално антитяло срещу мезотелиом	Лечение на малигнен мезотелиом
Czech	Maytansinoid konjugovaná lidská monoklonální protilátka proti mezoteliom	Léčba maligního mezoteliomu
Danish	Maytansinoid-konjugeret humant monoklonalt antistof mod mesothelin.	Behandling af malignt mesotheliom
Dutch	Maytansinoïde-geconjugeerd humaan monoklonaal antilichaam tegen mesotheline	Behandeling van maligne mesothelioom
Estonian	Maitansinoidiga konjugeeritud humaniseeritud mesoteliini-vastane monoklonaalne antikeha	Pahaloomulise mesotelioomi ravi
Finnish	Maytansinoidiin yhdistetty ihmisen monoklonaalinen mesoteliinin vasta-aine	Malignin mesotelioman hoito
French	Anticorps monoclonal humain maytansinoïde conjugué contre le mésothéliome	Traitement du mésothéliome malin
German	Maytansinoid-konjugierter, humaner, monoklonaler Antikörper gegen Mesothelin	Behandlung des malignen Mesothelioms
Greek	Ανθρώπινο μονοκλωνικό αντίσωμα συζευγμένο με μεϊτανσινοειδές έναντι της μεσοθηλίνης	Θεραπεία κακοήθους μεσοθηλιώματος
Hungarian	Mesothelin elleni maytansinoid-konjugált humán monoklonális antitest	Rosszindulatú mesothelioma kezelése
Italian	Anticorpo monoclonale umano coniugato con maytansinoide diretto contro la mesotelina	Trattamento del mesotelioma maligno
Latvian	Meitanzinoīds - pret mezotelīnu konjugēta cilvēka monoklonāla antiviela	Ļaundabīgas mezoteliomas ārstēšana
Lithuanian	Maitansinoidu konjuguoti žmogaus monokloniniai antikūnai prieš mezoteliomą	Piktybinės mezoteliomos gydymas
Maltese	Antikorp monoklonali uman kontra mesothelin konjugat ma' maytansinoid	Kura tal-mesoteljoma malinna
Polish	Ludzkie przeciwciało monoklonalne przeciw komórkom międzybłoniaka sprzężone z majtanzynoidem	Leczenie złośliwego międzybłoniaka

[1] At the time of designation

Language	Active substance	Indication
Portuguese	Maitansinóide conjugado com um anticorpo monoclonal humano anti mesotelioma	Tratamento do Mesotelioma maligno
Romanian	Maytansinoid - anticorp monoclonal uman conjugat împotriva mezotelinei	Tratamentul mezoteliomului malign
Slovak	Ľudská monoklonálna protilátka proti mezoteliómu konjugovaná s maytanzinoidom	Liečba malígneho mezoteliómu
Slovenian	Na majtanzinoid konjugirano humano monoklonsko protitelo proti mezotelinu	Zdravljenje malignega mezotelioma
Spanish	Anticuerpo monoclonal humano contra mesotelina conjugado con maitansinoide	Tratamiento del mesotelioma maligno
Swedish	Maytansinoid-konjugerad human monoklonal antikropp mot mesotelin	Behandling av malignt mesoteliom
Norwegian	Maytansinoidkonjugert humant monoklonalt antistoff mot mesotelin	Behandling av malignt mesoteliom
Icelandic	Maytansínóíð tengt manna einstofna mótefni gegn mesóthelíni	Meðferð við illkynja miðþekjuæxli