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Committee for Orphan Medicinal Products

Public summary of opinion on orphan designation

4-amino-5-oxo-4 (pyridinium-1-ylmethyl) proline for the treatment of renal cell carcinoma

On 16 February 2006, orphan designation (EU/3/06/356) was granted by the European Commission to Prodimed S.A., Spain, for 4-amino-5-oxo-4 (pyridinium-1-ylmethyl) proline for the treatment of renal cell carcinoma.

What is renal cell carcinoma?

Renal cell carcinoma (also called cancer of the kidney or renal adenocarcinoma) is a disease in which cancer (malignant) cells are found in certain tissues of the kidney. Inside each kidney are tiny tubules that filter and clean the blood, taking out waste products, and making urine. Renal cell carcinoma is a cancer of the lining of the tubules in the kidney. Renal cell carcinoma accounts for approximately 85% of all kidney cancers. Signs of cancer are difficult to detect in early stages of the disease, and about half of the patients are diagnosed when the disease has spread around the kidney or to distant parts of the body. Renal cell carcinoma is life-threatening.

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

At the time of designation, renal cell carcinoma affected approximately 3.5 in 10,000 people in the European Union (EU)*. This is equivalent to a total of around 161,000 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?

There are treatments for most patients with renal cell carcinoma. These may include surgery (taking out the cancer in an operation), chemotherapy (using drugs to kill cancer cells), radiation therapy (using high-dose x-rays or other high-energy rays to kill cancer cells), hormone therapy (using hormones to stop cancer cells from growing), and biological therapy (using the body's immune system

*Disclaimer: For the purpose of the designation, the number of patients affected by the condition is estimated and assessed based on data from the European Union (EU 25), Norway, Iceland and Lichtenstein. This represents a population of 459,700,000 (Eurostat 2004). This estimate is based on available information and calculations presented by the sponsor at the time of the application.

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to fight cancer). The primary therapies for advanced cancer are biologic agents, such as interleukin-2 and interferon-alpha. Other anticancer agents had also been authorised in the Community for treatment of renal cell carcinoma at the time of submission of the application for orphan designation.

Satisfactory argumentation has been submitted by the sponsor to justify the assumption that 4-amino-5-oxo-4 (pyridinium-1-ylmethyl) proline might be of potential significant benefit for the treatment of renal cell carcinoma because it might act in a different way than other available medicines, and thereby it might improve the long-term outcome of the patients. The assumption will have to be confirmed at the time of marketing authorisation. This will be necessary to maintain the orphan status.

How is this medicine expected to work?

At the time of the submission of the orphan drug designation application, it was not completely understood how 4-amino-5-oxo-4 (pyridinium-1-ylmethyl) proline works in the human body. It is thought that 4-amino-5-oxo-4 (pyridinium-1-ylmethyl) proline may help the body's immune system to kill the cancer cells.

What is the stage of development of this medicine?

The effects of 4-amino-5-oxo-4 (pyridinium-1-ylmethyl) proline were evaluated in experimental models.

At the time of submission of the application for orphan designation, no clinical trials in patients with renal cell carcinoma were initiated.

The medicinal product was not authorised anywhere worldwide for renal cell carcinoma or designated as orphan medicinal product elsewhere for this condition, at the time of submission.

In accordance with Regulation (EC) No 141/2000 of 16 December 1999, the COMP adopted a positive opinion on 11 January 2006 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:

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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 Ingredient	Indication
English	4-amino-5-oxo-4 (pyridinium-1-ylmethyl) proline	Treatment of renal cell carcinoma
Czech	4-amino-5-oxo-4 (pyridinium-1-ylmethyl) proline	Léčba karcinomu ledvin
Danish	4-amino-5-oxo-4 (pyridinium-1-ylmethyl) prolin	Behandling af renalcellekarcinom
Dutch	4-amino-5-oxo-4 (pyridinium-1-ylmethyl) proline	Behandeling van niercelcarcinoom
Estonian	4-amino-5-oxo-4 (pyridinium-1-ylmethyl) proline	Neeru-vähi ravi
Finnish	4-amino-5-oxo-4 (pyridinium-1-ylmetyyli) proliini	Munuaiskarsinooman hoito
French	4-aminé-5-oxo-4 (pyridinium-1-ylméthyl) proline	Traitement du carcinome rénal
German	4-amino-5-oxo-4 (pyridinium-1-ylmethyl) prolin	Behandlung des Nierenzellkarzinoms
Greek	4-αμινο-5-οξο-4 (πυριδινιουμ-1-υλο-μεθυλο) προλίνη	Θεραπεία του νεφροκυτταρικού καρκινώματος
Hungarian	4-amino-5-oxo-4 (piridinium-1-ilmetil) proline	Vesekarcinoma kezelése
Italian	4-amino-5-oxo-4 (pyridinium-1-ylmethyl) prolina	Trattamento del carcinoma renale
Latvian	4-amino-5-okso-4 (piridinium-1-ilmetil) prolīns	Nieru karcinomas ārstēšana
Lithuanian	4-amino-5-oksi-4 (piridino-1-ilmetil) prolinas	Inkstų adenokarcinomos gydymas
Polish	4-amino-5-okso-4 (pirydynio-1-ylometylo) prolina	Leczenie raka nerki
Portuguese	4-amino-5-oxo-4 (pyridinium-1-ylmethyl) proline.	Tratamento do carcinoma das células renais
Slovak	4-amino-5-oxo-4 (pyridín-1-ylmethyl) prolín	Liečba karcinómu obličky
Slovenian	4-amino-5-okso-4 (piridin-1-ilmetil) prolin	Zdravljenje raka ledvičnih celic
Spanish	4-amino-5-oxo-4 (piridinio-1-ilmetil) prolina	Tratamiento de carcinoma de células renales
Swedish	4-amino-5-oxo-4 (pyridinium-1-ylmethyl) proline	Behandling av njurcellscancer
Norwegian	4 amino-5-oxo-4 (pyridinium-1-ylmetyl) prolin	Behandling av nyrecellekarsinom

[1] At the time of designation

Language	Active Ingredient	Indication
Icelandic	4 amínó-5-oxó-4 (pýridíníum-1-ýlmethýl) prólín	Meðferð á nýrnafrumukrabbameini