

8 January 2018  
EMA/689758/2017

## Public summary of opinion on orphan designation

### 4-Amino-1-[(1S,4R,5S)-2-fluoro-4,5-dihydroxy-3-(hydroxymethyl)cyclopent-2-en-1-yl]pyrimidin-2-one for the treatment of pancreatic cancer

On 12 October 2017, orphan designation (EU/3/17/1937) was granted by the European Commission to Quintiles Ireland Limited, Ireland, for 4-amino-1-[(1S,4R,5S)-2-fluoro-4,5-dihydroxy-3-(hydroxymethyl)cyclopent-2-en-1-yl]pyrimidin-2-one (also known as RX-3117) for the treatment of pancreatic cancer.

#### What is pancreatic cancer?

Pancreatic cancer is cancer of the pancreas, a small organ that lies behind the stomach. The pancreas has two functions: to produce a fluid that helps with the digestion of food, and to produce hormones such as insulin. Due to the absence of symptoms in the early stages of pancreatic cancer, the majority of patients are diagnosed when the cancer has spread nearby or to other parts of the body.

Pancreatic cancer is a debilitating and life-threatening disease that is associated with shortened life expectancy.

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

At the time of designation, pancreatic cancer affected approximately 2.4 in 10,000 people in the European Union (EU). This was equivalent to a total of around 124,000 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, several medicines were authorised in the EU for treating pancreatic cancer. Treatments included surgery, radiotherapy (treatment with radiation) and chemotherapy (medicines to treat cancer).

The sponsor has provided sufficient information to show that the medicine might be of significant benefit for patients with pancreatic cancer because laboratory studies showed that it reduced the size

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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 28), Norway, Iceland and Liechtenstein. This represents a population of 515,700,000 (Eurostat 2017).

of the tumours that were resistant to treatment with the cancer medicine gemcitabine. It was also found to be effective when given in combination with another cancer medicine, paclitaxel. These assumptions 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?**

The medicine is activated inside cancer cells by an enzyme called UCK2. Because this enzyme is present mainly in cancer cells, the medicine is activated only in these cells. The activated form of the medicine blocks the production of the cell's genetic material, RNA and DNA, and so kills the cancer cells. This is expected to slow down the growth of the cancer.

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

The effects of the medicine 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 pancreatic cancer had been started.

At the time of submission, the medicine was not authorised anywhere in the EU for pancreatic cancer. Orphan designation of the medicine had been granted in the United States for this condition.

In accordance with Regulation (EC) No 141/2000 of 16 December 1999, the COMP adopted a positive opinion on 5 October 2017 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:

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

Language	Active ingredient	Indication
English	4-amino-1-[(1S,4R,5S)-2-fluoro-4,5-dihydroxy-3-(hydroxymethyl)cyclopent-2-en-1-yl]pyrimidin-2-one	Treatment of pancreatic cancer
Bulgarian	4-амино-1-[(1S,4R,5S)-2-флуоро-4,5-дихидрокси-3-(хидроксиметил)циклопент-2-ен-1-ил]пиримидин-2-он	Лечение на рак на панкреаса
Croatian	4-amino-1-[(1S,4R,5S)-2-fluoro-4,5-dihidroksi-3-(hidroksimetil)ciklopent-2-en-1-il]pirimidin-2-on	Liječenje raka gušterače
Czech	4-amino-1-[(1S,4R,5S)-2-fluoro-4,5-dihydroxy-3-(hydroxymethyl)cyklopent-2-en-1-yl]pyrimidin-2-on	Léčba karcinomu pankreatu
Danish	4-amino-1-[(1S,4R,5S)-2-fluoro-4,5-dihydroxy-3-(hydroxymethyl)cyclopent-2-en-1-yl]pyrimidin-2-on	Behandling af pancreascancer
Dutch	4-amino-1-[(1S,4R,5S)-2-fluoro-4,5-dihydroxy-3-(hydroxymethyl)cyclopent-2-en-1-yl]pyrimidine-2-one	Behandeling van pancreaskanker
Estonian	4-amino-1-[(1S,4R,5S)-2-fluoro-4,5-dihüdroksi-3-(hüdrosümetüül)tsüklopent-2-een-1-üül]pürimidiin-2-oon	Pankreasevähki ravi
Finnish	4-amino-1-[(1S,4R,5S)-2-fluoro-4,5-dihidroksi-3-(hydroksimetyyli)syklopent-2-en-1-yyli]pyrimidin-2-oni	Haimasyövän hoito
French	4-amino-1-[(1S,4R,5S)-2-fluoro-4,5-dihydroxy-3-(hydroxyméthyl)cyclopent-2-en-1-yl]pyrimidine-2-one	Traitement du cancer pancréatique
German	4-Amino-1-[(1S,4R,5S)-2-fluor-4,5-dihydroxy-3-(hydroxymethyl)cyclopent-2-en-1-yl]pyrimidin-2-on	Behandlung des Pankreaskarzinoms
Greek	4-αμινo-1-[(1S,4R,5S)-2-φθορο-4,5-διϋδροξυ-3-(υδροξυμεθυλ)κυκλοπεντ-2-εν-1-υλ]πυριμιδιν-2-όνη	Θεραπεία καρκίνου του παγκρέατος
Hungarian	4-amino-1-[(1S,4R,5S)-2-fluoro-4,5-dihidroxi-3-(hidroximetil)ciklopent-2-én-1-il]pirimidin-2-on	Hasnyálmirigyrák kezelése
Italian	4-ammino-1-[(1S,4R,5S)-2-fluoro-4,5-diidrossi-3-(idrossimetil)ciclopent-2-en-1-il]pirimidin-2-one	Trattamento del cancro pancreatico
Latvian	4-amino-1-[(1S,4R,5S)-2-fluoro-4,5-dihidroksi-3-(hidroksimetil)ciklopent-2-en-1-il]pirimidīn-2-ons	Aizkuņģa dziedzerā vēža ārstēšana
Lithuanian	4-amino-1-[(1S,4R,5S)-2-fluoro-4,5-dihidroksi-3-(hidroksimetil)ciklopent-2-en-1-il]pirimidin-2-onas	Kasos vėžio gydymas
Maltese	4-ammino-1-[(1S,4R,5S)-2-fluwor-4,5-diidrossi-3-(idrossimetil)ċiklopent-2-en-1-il]pirimidin-2-on	Kura tal-kanċer tal-frixa
Polish	4-amino-1-[(1S,4R,5S)-2-fluoro-4,5-dwuhydroksy-3-(hydroksymetylo)cyklopent-2-en-1-yl]pirymidyna-2-on	Leczenie raka trzustki
Portuguese	4-amino-1-[(1S,4R,5S)-2-fluoro-4,5-di-hidroxi-3-(hidroximetil)ciclopent-2-eno-1-il]pirimidin-2-ona	Tratamento do carcinoma do pâncreas
Romanian	4-amino-1-[(1S,4R,5S)-2-fluoro-4,5-dihidroxi-3-(hidroximetil)ciclopent-2-en-1-il]pirimidin-2-onă	Tratamentul cancerului pancreatic

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

Language	Active ingredient	Indication
Slovak	4-amino-1-[(1S,4R,5S)-2-fluoro-4,5-dihydroxy-3-(hydroxymetyl)cyklopent-2-en-1-yl]pyrimidín-2-ón	Liečba rakoviny pankreasu
Slovenian	4-amino-1-[(1S,4R,5S)-2-fluoro-4,5-dihidroksi-3-(hidroksimetil)ciklopent-2-en-1-il]pirimidin-2-on	Zdravljenje raka trebušne slinavke
Spanish	4-amino-1-[(1S,4R,5S)-2-fluoro-4,5-dihidroxi-3-(hidroximetil)ciclopent-2-en-1-il]pirimidina-2-ona	Tratamiento del cáncer de páncreas
Swedish	4-amin-1-[(1S,4R,5S)-2-fluor-4,5-dihydroxi-3-(hydroximetyl)cyklopent-2-en-1-yl]pyrimidin-2-on	Behandling av pankreascancer
Norwegian	4-amino-1-[(1S,4R,5S)-2-fluoro-4,5-dihydroksy-3-(hydroksymetyl)syklopent-2-en-1-yl]pyrimidin-2-on	Behandling av pankreascancer
Icelandic	4-amínó-1-[(1S,4R,5S)-2-flúoró-4,5-díhýdroxý-3-(hýdroxýmetyl)sýklópent-2-en-1-ýl]pýrimídín-2-on	Meðferð briskrabbameins