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EMA/COMP/642226/2010
Committee for Orphan Medicinal Products

Public summary of opinion on orphan designation

N-[(2S)-2,3-dihydroxypropyl]-3-[(2-fluoro-4-iodophenyl)amino] isonicotinamide hydrochloride for the treatment of acute myeloid leukaemia

On 17 December 2010, orphan designation (EU/3/10/824) was granted by the European Commission to Merck KGaA, Germany, for N-[(2S)-2,3-dihydroxypropyl]-3-[(2-fluoro-4-iodophenyl) amino] isonicotinamide hydrochloride for the treatment of acute myeloid leukaemia.

What is acute myeloid leukaemia?

Acute myeloid leukaemia (AML) is a cancer of the white blood cells (cells that fight against infections). In patients with AML, the bone marrow (the spongy tissue inside the large bones) produces large numbers of abnormal, immature white blood cells. These abnormal cells quickly build up in large numbers in the bone marrow and are found in the blood.

AML is a life-threatening disease because these abnormal immature cells take the place of the normal white blood cells, reducing the patient's ability to fight infections.

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

At the time of designation, AML affected approximately one in 10,000 people in the European Union (EU)*. This is equivalent to a total of around 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?

The treatment for AML is complex and depends on a number of factors including the extent of the disease, whether it has been treated before, and the patient's age, symptoms and general state of health. At the time of designation, the main treatments for AML were chemotherapy (medicines to treat cancer) and haematopoietic (blood) stem-cell transplantation (a complex procedure where the patient receives stem cells from a matched donor to help restore the bone marrow).

*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 506,500,000 (Eurostat 2010).

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The sponsor has provided sufficient information to show that N-[(2S)-2,3-dihydroxypropyl]-3-[(2-fluoro-4-iodophenyl) amino] isonicotinamide hydrochloride might be of significant benefit for patients with AML because early studies in experimental models show that it might improve the treatment of patients with this condition. 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?

N-[(2S)-2,3-dihydroxypropyl]-3-[(2-fluoro-4-iodophenyl)amino] isonicotinamide hydrochloride is expected to work by blocking an enzyme called MEK1/2, which is involved in stimulating cells to grow and divide. MEK1/2 is over-activated in cancer cells, which makes them divide uncontrollably. By blocking this enzyme, the medicine is expected to control cell division, slowing down the production of new cancer cells.

What is the stage of development of this medicine?

The effects of N-[(2S)-2,3-dihydroxypropyl]-3-[(2-fluoro-4-iodophenyl)amino] isonicotinamide hydrochloride have been evaluated in experimental models.

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

At the time of submission, the medicine was not authorised anywhere in the EU for AML 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 7 October 2010 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	N-[(2S)-2,3-dihydroxypropyl]-3-[(2-fluoro-4-iodophenyl) amino] isonicotinamide hydrochloride	Treatment of acute myeloid leukaemia
Bulgarian	N-[(2S)-2,3-дихидроксипропил]-3-[(2-флуоро-4-йодфенил) амино] изоникотинамид хидрохлорид	Лечение на остра миелоидна левкемия
Czech	N-[(2S)-2,3-dihydroxypropyl]-3-[(2-fluor-4-jodofenyl)amino] isonikotinamid hydrochlorid	Léčba akutní myeloidní leukémie
Danish	N-[(2S)-2,3-dihydroxypropyl]-3-[(2-fluor-4-iodphenyl) amino] isonicotinamidhydrochlorid	Behandling af akut myeloid leukæmi
Dutch	N-[(2S)-2,3-dihydroxypropyl]-3-[(2-fluor-4-joodfenyl) amino] isonicotinamide hydrochloride	Behandeling van acute myeloïde leukemie
Estonian	N-[(2S)-2,3-dihüdroksüpropüül]-3-[(2-fluoro-4-jodofenüül) amino] isonikotiinamiidvesinikkloriid	Akuutse müeloidse leukeemia ravi
Finnish	N-[(2S)-2,3-dihydroksipropyyli]-3-[(2-fluoro-4-jodifenyyli) amino] isonikotiiniamidihydrokloridi	Akuutin myelooisen leukemian hoito
French	chlorhydrate de N-[(2S)-2,3-dihydroxypropyl]-3-[(2-fluoro-4-iodophenyl) amino] isonicotinamide	Traitement de la leucémie aiguë myéloïde
German	N-[(2S)-2,3-Dihydroxypropyl]-3-[(2-fluor-4-iodphenyl)amino]isonicotinamidhydrochlorid	Behandlung der akuten myeloischen Leukämie
Greek	υδροχλωρικό N-[(2S)-2,3-διυδροξυπροπυλο]-3-[(2-φθορο-4-ιωδοφαινυλ)άμινο] ισονικοτιναμίδιο	Θεραπεία της οξείας μυελοειδούς λευχαιμίας
Hungarian	N-[(2S)-2,3-dihidroxipropil]-3-[(2-fluoro-4-jodofenil) amino] izonikotinamid-hidroklorid	Akut myeloid leukaemia kezelése
Italian	N-[(2S)-2,3-diidrossipropil]-3-[(2-fluoro-4-iodofenil) amino] isonicotinamide idrocloruro	Trattamento della leucemia mieloide acuta
Latvian	N-[2S)-2,3-dihidroksipropil]-3-[2-fluoro-4-jodofenil) amino] izonikotinamida hidrohlorids	Akūtas mieloleikozes ārstēšana
Lithuanian	N-[(2S)-2,3-dihidroksipropil]-3-[(2-fluoro-4-jodofenil) amino] izonikotinamido hidrochloridas	Ūmios mieloleukozės gydymas
Maltese	N-[(2S)-2,3-dihydroxypropyl]-3-[(2-fluoro-4-iodophenyl) amino] isonicotinamide hydrochloride	Kura tal-lewkimja mjelojda akuta
Polish	N-[(2S)-2,3-dihydroksypropylo]-3-[(2-fluoro-4-jodofenylo) amino] izonikotynamidu chlorowodorek	Leczenie ostrej białaczki szpikowej
Portuguese	Cloridrato de N-[(2S)-2,3-dihidroxipropil]-3-[(2-fluoro-4-iodofenil) amino] isonicotinamida	Tratamento da leucémia mielóide aguda
Romanian	N-[(2S)-2,3-dihidroxipropil]-3-[(2-fluoro-4-iodofenil) amino] izonicotinamidă clorhidrică	Tratamentul leucemiei mieloide acute
Slovak	N-[(2S)-2,3-dihydroxypropyl]-3-[(2-fluoro-4-jodofenyl) amino] isonikotínamid hydrochlorid	Liečba akútnej myeloickej leukémie
Slovenian	N-[(2S)-2,3-dihidroksipropil]-3-[(2-fluoro-4-jodofenil) amino] izonikotinamidijev klorid	Zdravljenje akutne mieloične levkemije

[1] At the time of designation

Spanish	Clorihidrato de N-[(2S)-2,3-dihidroxipropil]-3-[(2-fluoro-4-iodofenil) amino] isonicotinamida	Tratamiento de la leucemia mieloide aguda
Swedish	N-[(2S)-2,3-dihydroxypropyl]-3-[(2-fluoro-4-jodofenyl) amino] isonikotinamid hydroklorid	Behandling av akut myeloisk leukemi
Norwegian	N-[(2S)-2,3-dihydroksypropyl]-3-[(2-fluor-4-jodfenyl) amino] isonikotinamidhydroklorid	Behandling av akutt myelogen leukemi
Icelandic	N-[(2S)-2,3-tvíhýdroxýprópýl]-3-[(2-flúró-4-joðófenýl) amínó] ísónikótínamíð hýdróklóríð	Meðferð við bráðu kyrningahvítblæði