European Medicines Agency
Pre-authorisation Evaluation of Medicines for Human Use

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COMMITTEE FOR ORPHAN MEDICINAL PRODUCTS

PUBLIC SUMMARY OF POSITIVE OPINION FOR ORPHAN DESIGNATION OF tipifarnib for the treatment of acute myeloid leukemia

On 10 March 2005, orphan designation (EU/3/05/269) was granted by the European Commission to Janssen-Cilag International N.V., Belgium, for tipifarnib for the treatment of acute myeloid leukaemia.

What is acute myeloid leukemia?
Acute myeloid leukemia is a disease in which cancer cells are found in the blood and the bone marrow. The bone marrow is the spongy tissue inside the large bones in the body. Normally, the bone marrow makes cells called "blasts" that mature into several different types of blood cells that have specific functions in the body. These include red cells, white cells and platelets. Red blood cells carry oxygen and other materials to all tissues of the body. White blood cells fight infection. Platelets make the blood clot. When leukemia develops, the bone marrow produces large numbers of abnormal blood cells. There are several types of leukemias. In myeloid leukemia blasts that are developing into a type of white blood cells called granulocytes are affected. The blasts do not mature and become too many. These blast cells are then found in the blood and also accumulate in the bone marrow where they take the place of the other types of normal blood cells. Leukemia can be acute (when it develops quickly with many blasts). Acute myeloid leukemia is life-threatening.

What are the methods of treatment available?
Treatment for leukemia is complex and depends on a number of factors including the type of leukaemia, the extent of the disease and whether the leukaemia has been treated before. It also depends on the age, the symptoms, and the general health of the patient. The primary treatment of acute myeloid leukemia is chemotherapy (using drugs to kill cancer cells). Several products were authorised for the condition in the Community at the time of submission of the application for orphan drug designation.
Tipifarnib could be of potential significant benefit for the treatment of acute myeloid leukemia because it might improve the long-term outcome of the patients. This assumption will have to be confirmed at the time of marketing authorisation. This will be necessary to maintain the orphan status.

What is the estimated number of patients affected by the condition*?
According to the information provided by the sponsor, acute myeloid leukemia was considered to affect about 32,200 persons in the European Union.

How is this medicinal product expected to act?
Tipifarnib is a molecule that represses or prevents the functioning of another molecule (the so-called farnesyl transferase). Farnesyl transferase is an enzyme (a protein that speed up the conversion of certain substances into other substances) indirectly involved in the reproduction and maturation of the

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leukemic cells. It is assumed that by blocking farnesyl transferase, tipifarnib might block the cancer cell division in acute myeloid leukemia.

What is the stage of development of this medicinal product?
The effects of tipifarnib were evaluated in experimental models.
At the time of submission of the application for orphan designation, clinical trials in patients with acute myeloid leukemia were ongoing.

Tipifarnib was not marketed anywhere worldwide for acute myeloid leukemia at the time of submission. Orphan designation of tipifarnib was granted in United States for treatment of acute myeloid leukemia.

According to Regulation (EC) No 141/2000 of 16 December 1999, the Committee for Orphan Medicinal Products (COMP) adopted on 3 February 2005 a positive opinion recommending the grant of the above-mentioned designation.

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Opinions on orphan medicinal products designations are based on the following cumulative criteria: (i) the seriousness of the condition, (ii) the existence or not of alternative methods of diagnosis, prevention or treatment and (iii) either the rarity of the condition (considered to affect not more than five in ten thousand persons in the Community) or the insufficient return of development investments.

Designated orphan medicinal products are still investigational products which were considered for designation on the basis of potential activity. An orphan designation is not a marketing authorisation. As a consequence, demonstration of the quality, safety and efficacy will be necessary before this product can be granted a marketing authorisation.

For more information:
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*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.

Patients' associations contact points:

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Translations of the active ingredient and indication in all EU languages and Norwegian and Icelandic

Language	Active Ingredient	Indication
English	Tipifarnib	Treatment of acute myeloid leukaemia
Czech	Tipifarnibum	Léčba akutní myeloidní leukémie
Danish	Tipifarnib	Behandling af akut myeloid leukæmi
Dutch	Tipifarnib	Behandeling van acute myeloïde leukemie
Estonian	Tipifarniib	Akuutse müeloidse leukeemia ravi.
Finnish	Tipifarnibi	Akuutin myelooisen leukemian hoito
French	Tipifarnib	Traitement de la leucémie myéloïde aiguë
German	Tipifarnib	Behandlung der akuten myeloischen Leukämie
Greek	Τιπιφαρνίμπη	Θεραπεία της οξείας μυελοειδούς λευχαιμίας
Hungarian	Tipifarnib	Akut myeloid leukaemia kezelése
Italian	Tipifarnib	Trattamento della leucemia mieloide acuta
Latvian	Tipifarnibs	Akūtas mieloleikozes ārstēšana
Lithuanian	Tipifarnibas	Ūminės mieloleukozės gydymas
Polish	Tipifarnib	Leczenie ostrej białaczki szpikowej
Portugese	Tipifarnib	Tratamento da leucemia mielóide aguda
Slovak	Tipifarnib	Liečba akútnej myeloickej leukémie
Slovenian	Tipifarnib	Zdravljenje akutne mieloične levkemije
Spanish	Tipifarnib	Tratamiento de la leucemia mieloide aguda
Swedish	Tipifarnib	Behandling av akut myeloisk leukemi
Norwegian	Tipifarnib	Behandling av akutt myelogen leukemi
Icelandic	Tipifarníb	Til meðferðar við bráðu kyrningahvítblæði