



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 dasatinib for the treatment of chronic myeloid leukaemia

On 23 December 2005, orphan designation (EU/3/05/339) was granted by the European Commission to Bristol-Myers Squibb Pharma EEIG, United Kingdom, for dasatinib for the treatment of chronic myeloid leukaemia.

What is chronic myeloid leukaemia?

Chronic myeloid leukemia (CML) is a disease in which cancer cells are found in the blood and in 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 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. The disease can develop very slowly, which is why it is called “chronic” myeloid leukemia. Chronic 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 leukemia, the extent of the disease and whether the leukemia has been treated before. It also depends on the age, the symptoms, and the general health of the patient. At the time of submission of the application for orphan drug designation authorised treatments of chronic myeloid leukemia included chemotherapy agents (using drugs to kill cancer cells) and immunotherapy agents (using drugs that stimulate the body's own immune system to kill cancer cells). Sometimes a combination of immunotherapy and chemotherapies may have been used. Another product is also used which blocks (inhibits) growth signals within cancer cells and prevents a series of chemical reactions that cause the cell to grow and divide thus stopping cancer cells to grow. Bone marrow transplantation was also used.

Dasatinib could be of potential significant benefit for the treatment of chronic myeloid leukaemia mainly 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, chronic myeloid leukaemia was considered to affect less than 41,000 persons in the European Union.

How is this medicinal product expected to act?

Enzymes are proteins produced by the human body that speed up the transformation of certain substances into other substances. Dasatinib blocks (inhibits) a certain class of enzymes called tyrosine kinases. These enzymes play a role in a cascade of molecular reactions to bring a certain signal from outside the cell into the cell thereby controlling the growth of cells. In chronic myeloid leukaemia, the function of these enzymes is disturbed causing uncontrolled growth and multiplication of the cancer cells. Dasatinib might, by inhibition of one or more of these enzymes activity, at certain levels in the cascade, help in slowing down or stopping the further growth of the cancer cells.

What is the stage of development of this medicinal product?

The effects of dasatinib were evaluated in experimental models.

At the time of submission of the application for orphan designation, clinical trials in patients with chronic myeloid leukaemia were ongoing.

Dasatinib was not authorised anywhere worldwide for chronic myeloid leukaemia or designated as orphan medicinal product elsewhere for this condition, at the time of submission.

According to Regulation (EC) No 141/2000 of 16 December 1999, the Committee for Orphan Medicinal Products (COMP) adopted on 10 November 2005 a positive opinion recommending the grant of the above-mentioned designation.

Update: Dasatinib (Sprycel) is authorised in the European Union as of 20 November 2006 for the treatment of adults with chronic, accelerated or blast phase chronic myeloid leukaemia (CML) with resistance or intolerance to prior therapy including imatinib mesilate.

For more information please see www.emea.europa.eu

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:

Sponsor's contact details:

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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	Dasatinib	Treatment of chronic myeloid leukemia
Czech	Dasatinibum	Léčba chronické myeloidní leukémie
Danish	Dasatinib	Behandling af kronisk myeloid leukæmi
Dutch	Dasatinib	Behandeling van chronische myeloïde leukemie
Estonian	Dasatinib	Kroonilise müeloidse leukeemia ravi
Finnish	Dasatinibi	Kroonisen myelooisen leukemian hoito
French	Dasatinib	Traitement de la leucémie myéloïde chronique
German	Dasatinib	Behandlung der chronischen myeloischen Leukämie
Greek	Dasatinib	Θεραπεία της χρόνιας μυελοειδούς λευχαιμίας
Hungarian	Dasatinib	Krónikus myeloid leukémia kezelése
Italian	Dasatinib	Trattamento della leucemia mieloide cronica
Latvian	Dasatinibs	Hroniskas mieloleikozes ārstēšana
Lithuanian	Dasatinibas	Lėtinės mielocitinės leukemijos gydymas
Polish	Dazatinib	Leczenie przewlekłej białaczki szpikowej
Portuguese	Dasatinib	Tratamento da leucemia mielóide crónica
Slovak	Dasatinibium	Liečba chronickej myeloidnej leukémie
Slovenian	Dasatinib	Zdravljenje kronične mieloične levkemije
Spanish	Dasatinib	Tratamiento de la leucemia mieloide crónica
Swedish	Dasatinib	Behandling av kronisk myeloid leukemi
Norwegian	Dasatinib	Behandling av kronisk myelogen leukemi
Icelandic	Dasatíníð	Meðferð við langvinnu kyrningahvítblæði