



## **COMMITTEE FOR ORPHAN MEDICINAL PRODUCTS**

### **PUBLIC SUMMARY OF POSITIVE OPINION FOR ORPHAN DESIGNATION OF dasatinib for the treatment of acute lymphoblastic leukaemia**

On 23 December 2005, orphan designation (EU/3/05/338) was granted by the European Commission to Bristol-Myers Squibb Pharma EEIG, United Kingdom, for dasatinib for the treatment of acute lymphoblastic leukaemia.

#### **What is acute lymphoblastic leukaemia?**

Acute lymphoblastic 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. Acute lymphoblastic leukemia is a cancer of certain white blood cells called lymphocytes. In this disease the lymphocytes multiply too quickly and live too long, so there are too many of them circulating in the blood. These leukaemic lymphocytes look normal, but they are not fully developed and do not work properly. Over a period of time these abnormal cells replace the normal white cells, red cells and platelets in the bone marrow. Acute lymphoblastic leukemia is the most common type of leukemia in young children. This disease also affects adults, especially those aged 65 and older. Many patients with acute leukemia can be cured. However, despite the available treatments, acute lymphoblastic leukemia remains a serious and life threatening condition in a subgroup of patients.

#### **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 patient's age, symptoms, and general health. The primary treatment of acute lymphoblastic leukemia is chemotherapy (using drugs to kill cancer cells) followed or combined with radiotherapy (using high-energy x-rays or other types of high-energy rays to kill cancer cells). Bone marrow transplantation is also available.

Satisfactory argumentation has been submitted by the sponsor to justify the assumption that dasatinib might be of potential significant benefit for the treatment of acute lymphoblastic leukemia 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 orphan status.

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

According to the information provided by the sponsor, acute lymphoblastic leukaemia was considered to affect about 33,000 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 acute lymphoblastic 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 acute lymphoblastic leukaemia were ongoing.

Dasatinib was not authorised anywhere worldwide for acute lymphoblastic 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 Philadelphia chromosome positive (Ph+) acute lymphoblastic leukaemia (ALL) and lymphoid blast CML with resistance or intolerance to prior therapy.

For more information please see [www.emea.europa.eu](http://www.emea.europa.eu)

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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**

<b>Language</b>	<b>Active Ingredient</b>	<b>Indication</b>
English	Dasatinib	Treatment of acute lymphoblastic leukaemia
Czech	Dasatinibum	Léčba akutní lymfoblastické leukémie
Danish	Dasatinib	Behandling af akut lymfoblastær leukæmi
Dutch	Dasatinib	Behandeling van acute lymfoblastaire leukemie
Estonian	Dasatiniib	Ägeda lümfoblastilise leukeemia ravi
Finnish	Dasatinibi	Akuutin lymfoblastileukemian hoito
French	Dasatinib	Traitement de la leucémie lymphoblastique aiguë
German	Dasatinib	Behandlung der akuten lymphatischen Leukämie
Greek	Dasatinib	Θεραπεία της οξείας λεμφοβλαστικής λευχαιμίας
Hungarian	Dasatinib	Akut lymphoblastos leukaemia kezelése
Italian	Dasatinib	Tattamento della leucemia linfoblastica acuta
Latvian	Dasatinibs	Akūtas limfoblastiskas leikozes ārstēšana
Lithuanian	Dasatinibas	Ūmios limfoblastinės leukemijos gydymas
Polish	Dazatinib	Leczenie ostrej białaczki limfoblastycznej
Portuguese	Dasatinib	Tratamento da leucemia linfoblástica aguda
Slovak	Dasatinibium	Liečba akútnej lymfoblastickej leukémie
Slovenian	Dasatinib	Zdravljenje akutne limfoblastne levkemije
Spanish	Dasatinib	Tratamiento de la leucemia linfoblástica aguda
Swedish	Dasatinib	Behandling av akut lymfatisk leukemi
Norwegian	Dasatinib	Behandling av akutt lymfoblastisk leukemi
Icelandic	Dasatínífb	Meðferð við bráðu eitlifrúmuhvítblæði