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Committee for Orphan Medicinal Products

Public summary of opinion on orphan designation

Alvocidib for the treatment of chronic lymphocytic leukaemia

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Rev.1: sponsor's name and address change	3 April 2013
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Disclaimer Please note that revisions to the Public Summary of Opinion are purely administrative updates. Therefore, the scientific content of the document reflects the outcome of the Committee for Orphan Medicinal Products (COMP) at the time of designation and is not updated after first publication.	

On 23 October 2007, orphan designation (EU/3/07/485) was granted by the European Commission to Sanofi Aventis, France, for alvocidib for the treatment of chronic lymphocytic leukaemia.

In October 2012, Sanofi Aventis changed name to Sanofi-Aventis Groupe.

The sponsorship was transferred to Theorem Clinical Research GmbH, Germany, in August 2014.

What is chronic lymphocytic leukaemia?

Chronic lymphocytic leukaemia 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", which mature into several different types of blood cells with 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 support blood clotting. When leukaemia develops, the bone marrow produces large numbers of abnormal blood cells. Over a period of time these abnormal cells replace the normal white cells, red cells and platelets in the bone marrow, which reduces the number of normal cells in the blood and leads to anaemia, coagulation problems (bruising, haemorrhages) and repeated infections. There are several types of leukaemias. Chronic lymphocytic leukaemia is a cancer of a type of white blood cells called lymphocytes. The lymphocytes multiply 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. Chronic lymphocytic leukaemia is the most common type of leukaemia; it mainly affects older people, being rare in people under the age of 40. Chronic lymphocytic leukaemia is chronically



debilitating and life-threatening, due to the severe prognosis and the poor long-term survival for high-risk patients.

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

At the time of designation, chronic lymphocytic leukaemia affected approximately 3.5 in 10,000 people in the European Union (EU). This was equivalent to a total of around 175,000 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?

Treatment for leukaemia 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, symptoms, and the general health of the patient. Some people with chronic lymphocytic leukaemia never have treatment, if their illness is not causing any symptoms and is progressing slowly. Treatment is often started only if and when the symptoms become troublesome. Current main treatment of chronic lymphocytic leukaemia 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.

Alvocidib could be of potential significant benefit for the treatment of chronic lymphocytic leukaemia, because it might act differently from other medicinal products. This assumption will have to be confirmed at the time of marketing authorisation. This will be necessary to maintain the orphan status.

How is this medicine expected to work?

Enzymes are proteins produced by the human body that speed up the conversion of certain substances into other substances. One class of enzymes are called protein kinases and the incorrect regulation of these enzymes is associated with cancer. Alvocidib is able to inhibit some protein kinases that are involved in the control of protein production. This plays a role in to the control of the formation of new blood vessels, cellular proliferation and cell death (apoptosis). Some data suggest that alvocidib could stimulate apoptosis in chronic lymphocytic leukaemia cancer cells.

What is the stage of development of this medicine?

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

Alvocidib was not authorised anywhere worldwide for chronic lymphocytic leukaemia, at the time of submission.

Orphan designation of alvocidib was granted in the United States for the treatment of B-cell chronic lymphocytic leukaemia, and for prolymphocytic leukaemia arising from chronic lymphocytic leukaemia.

In accordance with Regulation (EC) No 141/2000 of 16 December 1999, the COMP adopted a positive opinion on 12 September 2007 recommending the granting of this designation.

*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. At the time of designation, this represented a population of 500,300,000 (Eurostat 2007).

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:

Theorem Clinical Research GmbH
Koenigsteiner Str. 10
65812 Bad Soden a. Ts.
Germany
Tel. +49 6135 706 3534
Fax +49 6196 5228 155
E-mail: information@theoremclinical.com

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 languages¹, Norwegian and Icelandic

Language	Active ingredient	Indication
English	Alvocidib	Treatment of chronic lymphocytic leukaemia
Bulgarian	Алвоцидиб	Лечение на хронична лимфоцитна левкемия
Croatian	Alvocidib	Liječenje kronične limfocitne leukemije
Czech	Alvocidib	Léčba chronické lymfatické leukémie
Danish	Alvocidib	Behandling af kronisk lymfocytær leukæmi
Dutch	Alvocidib	Behandeling van chronische lymfocyttaire leukemie
Estonian	Alvotsidiib	Kroonilise lümfoidleukeemia ravi
Finnish	Alvosidibi	Kroonisen lymfosyyttileukemian hoito
French	Alvocidib	Traitement de la leucémie lymphoïde chronique
German	Alvocidib	Behandlung der chronisch-lymphatischen Leukämie
Greek	Alvocidib	Θεραπεία της χρόνιας λεμφοκυτταρικής λευχαιμίας
Hungarian	Alvocidib	Krónikus lymphoid leukémia kezelése
Italian	Alvocidib	Trattamento della leucemia linfocitica cronica
Latvian	Alvocidibs	Hroniskas limfocitiskās leukēmijas ārstēšana
Lithuanian	Alvocidibas	Lėtinės limfocitinės leukemijos gydymas
Maltese	Alvocidib	Kura tal-lewkimja limfoċitika kronika
Polish	Alwocydyb	Leczenie przewlekłej białaczki limfatycznej
Portuguese	Alvocidib	Tratamento da leucemia linfocítica crónica
Romanian	Alvocidib	Tratamentul leucemiei limfoide cronice
Slovak	Alvocidib	Liečba chronickej lymfocytovej leukémie
Slovenian	Alvocidib	Zdravljenje kronične limfatske levkemije
Spanish	Alvocidib	Tratamiento de la leucemia linfocítica crónica
Swedish	Alvocidib	Behandling av kronisk lymfatisk leukemi
Norwegian	Alvocidib	Behandling av kronisk lymfatisk leukemi
Icelandic	Alvócidíð	Meðferð á langvinnu eitilfrumuhvítblæði

¹ At the time of transfer of sponsorship