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

Document Date: London, 14 May 2009
Doc.Ref.: EMEA/COMP/369045/2008

Committee for Orphan Medicinal Products

Public summary of positive opinion for orphan designation of sapacitabine for the treatment of myelodysplastic syndromes

On 8 July 2008, orphan designation (EU/3/08/557) was granted by the European Commission to Cyclacel Limited, United Kingdom, for sapacitabine for the treatment of myelodysplastic syndromes.

What are myelodysplastic syndromes?
Myelodysplastic syndromes (MDSs) are a group of disorders in which the production of blood cells by the bone marrow is abnormal. The bone marrow is the spongy tissue found in the large bones. It has the function of making red cells (which are the main carriers of oxygen to body tissues), white blood cells (which fight infection), and platelets (which make the blood clot). In myelodysplastic syndromes their production is affected because these cells do not grow and mature abnormally. Consequently several symptoms can develop: fatigue or weakness (due to anaemia, the red cells deficit), infections (due to decrease in white blood cells) or easy bruising or abnormal bleeding (platelets deficit). Myelodysplastic syndromes are life threatening because they can result in severe anaemia, infections or haemorrhages and it can progress to acute leukaemia (cancer of white blood cells).

What is the estimated number of patients affected by the condition[*]?
At the time of designation MDSs affected approximately 3 in 10,000 people in the European Union (EU)*****. This is based on the information provided by the sponsor and knowledge of the Committee for Orphan Medicinal Products (COMP)**.** This is below the threshold for orphan designation which is 5 in 10,000. This is equivalent to a total of around 147,000 people.

What treatments are available?
At the time of submission of the application for orphan designation, some chemotherapy agents (medicines used to eliminate cancer) were authorised in the European Union (EU) for the treatment of MDSs. The choice of treatment for MDSs depends on a number of factors including the type and the extent of the disease, whether it has been treated before, and the patient's age, symptoms and general state of health. Current treatments for MDS include bone marrow transplantation and chemotherapy. Satisfactory argumentation has been submitted by the sponsor to justify the assumption that sapacitabine might be of potential significant benefit for the treatment of MDSs, because might improve the long-term outcome of the patients and because it is planned to be administered as capsules. These assumptions will need to be confirmed at the time of marketing authorisation, to maintain the orphan status.

[*]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 27), Norway, Iceland and Liechtenstein. This represents a population of 502,282,000 (Eurostat 2008).

7 Westferry Circus, Canary Wharf, London, E14 4HB, UK
Tel. (44-20) 74 18 84 00 Fax (44-20) 75 23 70 40
E-mail: orphandrugs@emea.europa.eu http://www.emea.europa.eu

How is this medicine expected to work?
Sapacitabine is expected to kill dividing cells. Sapacitabine it is a nucleoside analogue, which means that it is similar to a nucleoside, a chemical that forms part of the DNA (the fundamental genetic material in cells). In the body, sapacitabine is expected to interfere with an enzyme called DNA polymerase, which is involved in the formation of DNA. This is expected to slow down the production of DNA and the growth of the cancerous cells.

What is the stage of development of this medicine?
The effects of sapacitabine have been evaluated in experimental models.

At the time of submission of the application for orphan designation, no clinical trials in patients with MDSs had been started.

At the time of submission, sapacitabine was not authorised anywhere in the world for MDSs or designated as orphan medicinal product elsewhere for this condition.

According to Regulation (EC) No 141/2000 of 16 December 1999, the Committee for Orphan Medicinal Products (COMP) adopted a positive opinion on 14 May 2008 recommending the granting of the above-mentioned 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;
- and either the rarity of the condition (affecting not more than five in 10,000 people in the Community) or the 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 the quality, safety and efficacy is necessary before a product can be granted a marketing authorisation.

For more information:
Sponsor's contact details:
Cyclacel Limited
Dundee Technopole
James Lindsay Place
Dundee, DD1 5JJ
United Kingdom
Telephone: + 44 1382 20 60 62
Telefax: + 44 1382 20 60 67
E-mail: sboussen@cyclacel.com

Patients' associations contact points:

Ligue Nationale Contre le Cancer
14 Rue Corvisart
75013 Paris
France
Telephone: +33 1 53 55 24 00
Telefax: +33 1 43 36 91 10
E-mail: ligue@ligue-cancer.net

Deutsche Krebshilfe e. V.
Buschstr. 32
53113 Bonn
Germany
Telephone: +49 2 287 29 900
Telefax: +49 2 287 29 90 11
E-mail: deutsche@krebshilfe.de

Macmillan Cancer Support (merged with CancerBACUP)
3 Bath Place
Rivington Street
London
EC2A 3JR
United Kingdom
Telephone: +44 20 7696 9003
Switchboard open during office hours, Mon–Fri, 9am–Noon and 2pm–4.45pm
Telefax: +44 20 7696 9002

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

Language	**Active Ingredient**	**Indication**
English	Sapacitabine	Treatment of myelodysplastic syndromes
Bulgarian	Сапацитабин	Лечение на миелодиспластичен синдром
Czech	Sapacitabine	Léčba myelodysplastického syndromu
Danish	Sapacitabine	Behandling af myelodysplastiske syndromer
Dutch	Sapacitabine	Behandeling van myelodysplastische syndromen
Estonian	Sapatsitabiin	Müelodüsplastiliste sündroomide ravi
Finnish	Sapasitabiini	Myelodysplastisten syndroomien hoito
French	Sapacitabine	Traitement des syndromes myélodysplasiques
German	Sapacitabine	Behandlung der myelodysplastischen Syndrome
Greek	Sapacitabine (Σαπασιταμπίνη)	Θεραπεία των μυελοδυσπλαστικών συνδρόμων
Hungarian	Sapacitabine	Myelodysplasias syndroma kezelése
Italian	Sapacitabina	Trattamento delle sindromi mielodisplastiche
Latvian	Sapacitabīns	Mielodisplastisko sindromu ārstēšana
Lithuanian	Sapacitabinas	Mielodisplastinių sindromų gydymas
Maltese	Sapacitabine	Kura tas-sindromi mjelodisplastiċi
Polish	Sapacytabina	Leczenie zespołów mielodysplastycznych
Portuguese	Sapacitabina	Tratamento dos síndromes mielodisplásicos
Romanian	Sapacitabină	Tratamentul sindromului mielodisplazic
Slovak	Sapacitabín	Liečba myelodysplastického syndrome
Slovenian	Sapacitabin	Zdravljenje mielodisplastičnega sindroma
Spanish	Sapacitabina	Tratamiento de los síndromes mielodisplásicos
Swedish	Sapacitabine	Behandling av myelodysplastiska syndrom
Norwegian	Sapacitabin	Behandling av myelodysplastisk syndrom
Icelandic	Sapacítabín	Sapacitabine er notað til meðferðar við mergmisþroskaheilkenni