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

Document Date: London, 12 December 2005
Doc.Ref.: EMEA/COMP/26147/02 Rev.1

COMMITTEE FOR ORPHAN MEDICINAL PRODUCTS

PUBLIC SUMMARY OF POSITIVE OPINION FOR ORPHAN DESIGNATION OF duramycin for treatment of cystic fibrosis

On 13 November 2002, orphan designation (EU/3/02/120) was granted by the European Commission to Dr. Gerd Döring, Germany, for duramycin for the treatment of cystic fibrosis.
The sponsorship was transferred to AOP Orphan Pharmaceuticals AG, Austria, in December 2004.

What is cystic fibrosis?
Cystic fibrosis is a genetic disease. The genetic information that determines the characteristics of each individual is carried by genes located on structures called chromosomes. In humans, each cell has 23 pairs of chromosomes. For each pair one chromosome is inherited from the mother and the other from the father. Cystic fibrosis is caused by abnormalities of a specific gene, called CFTR, carried by the 7th pair of chromosomes. The CFTR gene is responsible for the production of a protein that regulates outflow of water and salts (like chloride) from cells that cover internal and external surfaces of the body, the so-called epithelial cells. Cystic fibrosis appears only when the CFTR is abnormal on both chromosomes of the 7th pair. The defective transport of water and salts due to the lack of the regulatory protein results in the thickening of the secretions in several organs (e.g. lungs, pancreas). This leads to chronic infection of the lungs and chronic inflammation (a response to the injury caused to the tissue). This is a major burden for cystic fibrosis patients. In the long run, these events damage the lung and the disease can become life-threatening.

What are the methods of treatment available?
Lung infection and inflammation in cystic fibrosis are treated mainly with antibiotics. These can be taken in a number of ways such as through the mouth, through a vein or they can be inhaled as a fine mist of particles. Associated treatments include daily exercise and physical therapies and several other types of medications such as pancreatic enzymes and food supplements. Bronchodilators are medications that can enlarge the lumen of the airways. Mucolytics help to dissolve the secretions. Still other medications are used to fight the inflammation. Duramycin might be of potential significant benefit in treatment of cystic fibrosis, because it is expected to act differently from existing treatments, and because it can be inhaled.

What is the estimated number of patients affected by the condition*?
According to the information provided by the sponsor, cystic fibrosis was considered to affect about 49,000 persons in the European Union.

How is this medicinal product expected to act?
Duramycin stimulates secretion of electrically charged atoms (ions) of chloride from epithelial cells in the lungs. Increased chloride secretion is accompanied by obligatory increase in water secretion from same cells. This may prevent the thickening of lung secretions and prevent further mucus build up and its progressive contribution to lung tissue damage.

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What is the stage of development of this medicinal product?
The evaluation of the effects of duramycin in experimental models is ongoing.
At the time of submission of the application for orphan designation, clinical trials in patients with cystic fibrosis were ongoing.

In the United States orphan drug status was granted on 11 December 1997 for treatment of cystic fibrosis. Duramycin was not marketed anywhere worldwide for cystic fibrosis, 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 9 October 2002 a positive opinion recommending the grant of the above-mentioned designation.

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 have been 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.

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*Disclaimer: The number of patients affected by the condition is estimated and assessed for the purpose of the designation, for a European Community population of 377,000,000 (Eurostat 2001) and may differ from the true number of patients affected by the condition. This estimate is based on available information and calculations presented by the sponsor at the time of the application.