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Committee for Orphan Medicinal Products

Public summary of opinion on orphan designation

(6aR,10aR)-3-(1',1'-dimethylheptyl)-delta-8-tetrahydrocannabinol-9-carboxylic acid for the treatment of cystic fibrosis

On 14 October 2016, orphan designation (EU/3/16/1736) was granted by the European Commission to TMC Pharma Services Ltd, United Kingdom, for (6aR,10aR)-3-(1',1'-dimethylheptyl)-delta-8-tetrahydrocannabinol-9-carboxylic acid (also known as JBT-101) for the treatment of cystic fibrosis.

What is cystic fibrosis?

Cystic fibrosis is a hereditary disease that affects the cells in the lungs, and the glands in the gut and pancreas, that secrete fluids. In cystic fibrosis, these fluids become thick, blocking the airways in the lungs and the flow of digestive juices in the gut and pancreas. This leads to inflammation and long-term infection of the lungs because of the build-up of thick mucus, and to poor growth and nutrition because of problems with the digestion and absorption of food.

Cystic fibrosis is caused by changes (mutations) in a gene that makes a protein called 'cystic-fibrosis transmembrane conductance regulator' (CFTR), which is involved in regulating the production of mucus and digestive juices.

Cystic fibrosis is a long-term debilitating and life-threatening disease because it severely damages the lung tissue, leading to problems with breathing and to recurrent chest infections

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

At the time of designation, cystic fibrosis affected less than 1 in 10,000 people in the European Union (EU). This was equivalent to a total of fewer than 51,000 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).

[*]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 28), Norway, Iceland and Liechtenstein. This represents a population of 513,700,000 (Eurostat 2016).

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What treatments are available?

At the time of designation, lung infection in cystic fibrosis was mainly treated with antibiotics. Kalydeco (ivacaftor) and Orcambi (ivacaftor and lumacaftor) were authorised to treat patients with cystic fibrosis who have certain mutations in the gene for CFTR. Other medicines used to treat the lung disease included anti-inflammatory agents, bronchodilators (medicines that help to open up the airways in the lungs) and mucolytics (medicines that help dissolve the mucus in the lungs). In addition, patients with cystic fibrosis were often given other types of medicines such as pancreatic enzymes (substances that help to digest and absorb food) and food supplements. They were also advised to exercise and to have physiotherapy.

The sponsor has provided sufficient information to show that this medicine might be of significant benefit for patients with cystic fibrosis. Laboratory studies indicate that it may reduce lung inflammation and help clear bacteria from the lungs. It also works in a different way to other medicines and could potentially be used as part of a combination treatment. These assumptions will need to be confirmed at the time of marketing authorisation, in order to maintain the orphan status.

How is this medicine expected to work?

This medicine attaches to receptors called cannabinoid type 2 receptors (CB2) found on immune cells. By attaching to these receptors, it is expected to control the body's immune (defence) system better in patients with cystic fibrosis, reducing inflammation in their lungs and so improving symptoms of the condition.

What is the stage of development of this medicine?

The effects of the medicine have been evaluated in experimental models.

At the time of submission of the application for orphan designation, clinical trials with the medicine in patients with cystic fibrosis were ongoing.

At the time of submission, the medicine was not authorised anywhere in the EU for cystic fibrosis. Orphan designation had been granted in the United States for the condition.

In accordance with Regulation (EC) No 141/2000 of 16 December 1999, the COMP adopted a positive opinion on 8 September 2016 recommending the granting of this designation.

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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:

Contact details of the current sponsor for this orphan designation can be found on EMA website, on the medicine's rare disease designations page.

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 languages[1], Norwegian and Icelandic

Language	Active ingredient	Indication
English	(6aR,10aR)-3-(1',1'-dimethylheptyl)-delta-8-tetrahydrocannabinol-9-carboxylic acid	Treatment of cystic fibrosis
Bulgarian	(6aR,10aR)-3-(1',1'-диметилхептил)-делта-8-тетрахидро-канабинол-9-карбоксилова киселина	Лечение на кистозна фиброза
Croatian	(6aR,10aR)-3-(1',1'-dimetilheptil)-delta-8-tetrahidro-kanabinol-9-karboksilna kiselina	Liječenje cistične fibroze
Czech	(6aR,10aR)-3-(1',1'-dimethylheptyl)-delta-8-tetrahydro-kanabinol-9-karboxylová kyselina	Léčba cystické fibrózy
Danish	(6aR,10aR)-3-(1',1'-dimethylheptyl)-delta-8-tetrahydro-cannabinol-9-carboxylsyre	Behandling af cystisk fibrose
Dutch	(6aR,10aR)-3-(1',1'-dimethylheptyl)-delta-8-tetrahydro-cannabinol-9-carbonzuur	Behandeling van cystische fibrose
Estonian	(6aR,10aR)-3-(1',1'-dimetüülheptüül)-delta-8-tetrahüdrokannabinool-9-karboksüülhape	Tsüstilise fibroosi ravi
Finnish	(6aR,10aR)-3-(1',1'-dimetyyliheptyyli)-delta-8-tetrahydrokannabinoli-9-karboksyylihappo	Kystisen fibroosin hoito
French	Acide(6aR,10aR)-3-(1',1'-diméthylheptyl)-delta-8-tétrahydro-cannabinol-9-carboxylique	Traitement de la mucoviscidose
German	(6aR,10aR)-3-(1',1'-Dimethylheptyl)-delta-8-tetrahydrocannabinol-9-carbonsäure	Behandlung zystischer Fibrose
Greek	(6aR,10aR)-3-(1',1'-διμεθυλεπτυλ)-δ-8-τετραϋδρο-καννσβινολ-9-καρβοξυλικό οξύ	Θεραπεία της κυστικής ίνωσης
Hungarian	(6aR,10aR)-3-(1',1'-dimetil-heptil)-delta-8-tetrahidrokannabinol-9-karbonsav	Cisztikus fibrózis kezelése
Italian	(6aR,10aR)-3-(1',1'-dimetil-eptil)-delta-8-tetraidro-cannabinol-9-acido carbossilico	Trattamento della fibrosi cistica
Latvian	(6aR,10aR)-3-(1',1'-dimetilheptil)-delta-8-tetrahidrokannabinol-9-karbonskābe	Cistiskās fibrozes ārstēšana
Lithuanian	(6aR,10aR)-3-(1',1'-dimetilheptil)-delta-8-tetrahidrokanabinol-9-karboksirūgštis	Cistinės fibrozės gydymas
Maltese	(6aR,10aR)-3-(1',1'-dimethylheptyl)-delta-8-tetrahydrocannabinol-9-carboxylic acid	Kura tal-fibrożi ċistiku
Polish	Kwas(6aR,10aR)-3-(1',1'-dimetyloheptylo)-delta-8-tetrahydro-kanabinolo-9-karboksylowy	Leczenie zwłóknienia torbielowatego
Portuguese	Ácido(6aR,10aR)-3-(1',1'-dimetilo-heptil)-delta-8-tetrahidro-canabinol-9-carboxílico	Tratamento da fibrose quística
Romanian	Acid(6aR,10aR)-3-(1',1'-dimetilheptil)-delta-8-tetrahidro-canabinol-9-carboxilic	Tratamentul fibrozei chistice
Slovak	(6aR,10aR)-3-(1',1'-dimetylheptyl)-delta-8-tetrahydro-kanabinol-9-karboxylová kyselina	Terapia cystickej fibrózy

[1] At the time of designation

Language	Active ingredient	Indication
Slovenian	(6aR,10aR)-3-(1',1'-dimetilheptil)-delta-8-tetrahidro-kanabinol-9-karboksilna kislina	Zdravljenje cistične fibroze
Spanish	ácido (6aR,10aR)-3-(1',1'-dimetilheptil)-delta-8-tetrahidrocannabinol-9- carboxílico	Tratamiento de la fibrosis quística
Swedish	(6aR,10aR)-3-(1',1'-dimetylheptyl)-delta-8-tetrahydro-cannabinol-9-karboxylsyra	Behandling av cystisk fibros
Norwegian	(6aR,10aR)-3-(1',1'-dimetylheptyl)-delta-8-tetrahydrokannabinol-9-karboksylsyre	Behandling av cystisk fibrose
Icelandic	(6aR,10aR)-3-(1',1'-dímetýlheptýl)-delta-8-tetrahýdró-kannabínól-9-karboxýlsýra	Meðferð við slímseigjusjúkdómi