



EUROPEAN MEDICINES AGENCY
SCIENCE MEDICINES HEALTH

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Committee for Orphan Medicinal Products

Public summary of opinion on orphan designation

4-[[9-[(3S)-tetrahydro-3-furanyl]-8-[(2,4,6-trifluorophenyl)amino]-9H-purin-2-yl]amino]-trans-cyclohexanol for the treatment of idiopathic pulmonary fibrosis

On 9 December 2011, orphan designation (EU/3/11/934) was granted by the European Commission to Celgene Europe Limited, United Kingdom, for 4-[[9-[(3S)-tetrahydro-3-furanyl]-8-[(2,4,6-trifluorophenyl)amino]-9H-purin-2-yl]amino]-trans-cyclohexanol for the treatment of idiopathic pulmonary fibrosis.

What is idiopathic pulmonary fibrosis?

Idiopathic pulmonary fibrosis is a long-term disease of the lungs characterised by the progressive formation of hard tissue in the lining of the lungs. 'Idiopathic' means that the cause of the disease is unknown. As the tissue becomes thicker and forms scars, the lungs become unable to work normally, reducing the transfer of oxygen from the air into the blood. Patients with idiopathic pulmonary fibrosis have a persistent cough, frequent lung infections and severe shortness of breath that worsens over time.

Idiopathic pulmonary fibrosis is a life-threatening and long-term debilitating disease because the lungs gradually lose their ability to work properly.

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

At the time of designation, idiopathic pulmonary fibrosis affected approximately 1.5 in 10,000 people in the European Union (EU)*. This is equivalent to a total of around 76,000 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 27), Norway, Iceland and Liechtenstein. This represents a population of 506,300,000 (Eurostat 2011).



What treatments are available?

At the time of designation, medicines such as corticosteroids, cyclophosphamide, cyclosporin and azathioprine were used in the EU to treat idiopathic pulmonary fibrosis. Pirfenidone (Esbriet) was authorised in the EU for the treatment of mild to moderate idiopathic pulmonary fibrosis.

The sponsor has provided sufficient information to show that this medicine might be of significant benefit for patients with idiopathic pulmonary fibrosis because early studies in experimental models show that it works in a different way to existing treatments and might improve the outcome of patients with this condition. This assumption 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?

The active substance in the medicine is a 'c-Jun amino-terminal kinase (JNK) inhibitor'. This means that it blocks the action of an enzyme called JNK, which is involved in several processes within the cells, including inflammation and the formation of scar tissue. By blocking the actions of this enzyme, the medicine is expected to improve the lung condition of patients with idiopathic pulmonary fibrosis.

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 idiopathic pulmonary fibrosis were ongoing.

At the time of submission, the medicine was not authorised anywhere in the EU for idiopathic pulmonary fibrosis or designated as an orphan medicinal product elsewhere for this condition.

In accordance with Regulation (EC) No 141/2000 of 16 December 1999, the COMP adopted a positive opinion on 7 October 2011 recommending the granting of this 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;
- 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:

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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	4-[[9-[(3S)-tetrahydro-3-furanyl]-8-[(2,4,6-trifluorophenyl)amino]-9H-purin-2-yl]amino]-trans-cyclohexanol	Treatment of idiopathic pulmonary fibrosis
Bulgarian	4-[[9-[(3S)-тетрахидро-3-фуранил]-8-[(2,4,6-трифлуорофенил)амино]-9H-пурин-2-ил]амино]-транс-циклохексанол	Лечение на идиопатична белодробна фиброза
Czech	4-[[9-[(3S)-tetrahydro-3-furanyl]-8-[(2,4,6-trifluorofenyl)amino]-9H-purin-2-yl]amino]-trans-cyklohexanol	Léčba idiopatické plicní fibrózy
Danish	4-[[9-[(3S)-tetrahydro-3-furanyl]-8-[(2,4,6-trifluorophenyl)amino]-9H-purin-2-yl]amino]-trans-cyclohexanol	Behandling af idiopatisk lungefibrose
Dutch	4-[[9-[(3S)-tetrahydro-3-furanyl]-8-[(2,4,6-trifluorofenyl)amino]-9H-purin-2-yl]amino]-trans-cyclohexanol	Behandeling van idiopathische longfibrose
Estonian	4-[[9-[(3S)-tetrahüdro-3-furanüül]-8-[(2,4,6-trifluorofenüül)amino]-9H-puriin-2-üül]amino]-trans-tsükloheksanool	Idiopaatilise kopsufibroosi ravi
Finnish	4-[[9-[(3S)-tetrahydro-3-furanyyli]-8-[(2,4,6-trifluorifenyyli)amino]-9H-puriini-2-yyli]amino]-trans-sykloheksanoli	Idiopaattisen keuhkofibroosin hoito
French	4-[[9-[(3S)-tetrahydro-3-furanyl]-8-[(2,4,6-trifluorophenyl)amino]-9H-purine-2-yl]amino]-trans-cyclohexanol	Traitement de la fibrose pulmonaire idiopathique
German	4-[[9-[(3S)-tetrahydro-3-furanyl]-8-[(2,4,6-trifluorophenyl)amino]-9H-purin-2-yl]amino]-trans-cyclohexanol	Behandlung von Idiopathischer Pulmonaler Fibrose
Greek	4-[[9-[(3S)-τετραϋδρο-3-φουρανυλο]-8-[(2,4,6-τριφθοροφαινυλο)αμινο]-9H-πουρινο-2-υλο]αμινο]-trans-κυκλοεξανόλη	Θεραπεία της ιδιοπαθούς πνευμονικής ίνωσης
Hungarian	4-[[9-[(3S)-tetrahidro-3-furanil]-8-[(2,4,6-trifluorofenil)amino]-9H-purin-2-il]amino]-transz-ciklohexanol	Idiopathiás tüdőfibrózis kezelése
Italian	4-[[9-[(3S)-tetraidro-3-furanil]-8-[(2,4,6-trifluorofenil)amino]-9H-purin-2-il]amino]-trans-cicloesanol	Trattamento della fibrosi polmonare idiopatica
Latvian	4-[[9-[(3S)-tetrahidro-3-furanil]-8-[(2,4,6-trifluorfenil)amino]-9H-purīn-2-il]amino]-trans-cikloheksanols	Idiopātiskās plaušu fibrozes ārstēšana

¹ At the time of designation

Language	Active ingredient	Indication
Lithuanian	4-[[9-[(3S)-tetrahydro-3-furanil]-8-[(2,4,6-trifluorfenil) amino]-9H-purin-2-il]amino]-trans-cikloheksanolis	Idiopatinės plaučių fibrozės gydymas
Maltese	4-[[9-[(3S)-tetrahydro-3-furanyl]-8-[(2,4,6-trifluorophenyl)amino]-9H-purin-2-yl]amino]-trans-cyclohexanol	Kura tal-fibrozi pulmonari idjopatika
Polish	4-[[9-[(3S)-tetrahydro-3-furanyl]-8-[(2,4,6-trifluorofenyl)amino]-9H-puryno-2-yl]amino]-trans-cykloheksanol	Leczenie idiopatycznego zwłóknienia płuc
Portuguese	4-[[9-[(3S)-tetra-hidro-3-furanil]-8-[(2,4,6-trifluorofenil)amino]-9H-purin-2-il]amino]-trans-ciclo-hexanol	Tratamento da fibrose pulmonar idiopática
Romanian	4-[[9-[(3S)-tetrahidro-3-furanil]-8-[(2,4,6-trifluorofenil)amino]-9H-purin-2-il]amino]-trans-ciclohexanol	Tratamentul fibrozei pulmonare idiopatice
Slovak	4-[[9-[(3S)-tetrahydro-3-furanyl]-8-[(2,4,6-trifluorofenyl)amino]-9H-purín-2-yl]amino]-trans-cyklohexanol	Liečba idiopatickej pľúcnej fibrózy
Slovenian	4-[[9-[(3S)-tetrahidro-3-furanil]-8-[(2,4,6-trifluorofenil)amino]-9H-purin-2-il]amino]-trans-cikloheksanol	Zdravljenje idiopatske pljučne fibroze
Spanish	4-[[9-[(3S)-tetrahidro-3-furanil]-8-[(2,4,6-trifluorofenil)amino]-9H-purin-2-il]amino]-trans-ciclohexanol	Tratamiento de la fibrosis pulmonar idiopática
Swedish	4-[[9-[(3S)-tetrahydro-3-furanyl]-8-[(2,4,6-trifluorofenyl)amino]-9H-purin-2-yl]amino]-trans-cyklohexanol	Behandling av idiopatisk lungfibros
Norwegian	4-[[9-[(3S)-tetrahydro-3-furanyl] -8 - [(2,4,6-trifluorofenyl) amino]-9H-purin-2-yl] amino]-trans-sykloheksanol	Behandling av idiopatisk lungefibrose
Icelandic	4-[[9-[(3S)-tetrahýdró-3-fúranýl]-8-[(2,4,6-trifluórfenýl)amínó]-9H-púrín-2-ýl]amínó]-trans-cýclóhexanól	Meðferð sjálfvakinnar bandvefsmyndunar í lungum