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Committee for Orphan Medicinal Products

# Public summary of opinion on orphan designation

## Mavoglurant for treatment of fragile X syndrome

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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 10 October 2012, orphan designation (EU/3/12/1046) was granted by the European Commission to Novartis Europharm Limited, United Kingdom, for mavoglurant for treatment of fragile X syndrome.

### What is fragile X syndrome?

Fragile X syndrome is a genetic disease characterised by moderate to severe mental retardation. Other symptoms include social withdrawal, anxiety, hyperactivity, and repetitive and stereotyped behaviours.

The disease is caused by a defect in a gene on the X chromosome. The gene is responsible for the production of a protein called fragile X mental retardation protein (FMRP), which is necessary for the development of the brain. In patients with fragile X syndrome, the defective gene cannot produce FMRP and this leads to the mental retardation and other neurological symptoms. Men are usually more severely affected than women as they have only one X chromosome.

Fragile X syndrome is a long-term debilitating disease because of the behavioural and mental health problems it causes.

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

At the time of designation, fragile X syndrome affected approximately 2 in 10,000 people in the European Union (EU). This was equivalent to a total of about 102,000 people*, and is below the ceiling

*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 509,000,000 (Eurostat 2012).

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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?

At the time of designation, no satisfactory methods were authorised in the EU for the treatment of fragile X syndrome. Patients were given general support, such as behavioural therapy and special education, and in some cases, antidepressants, stimulants and antipsychotics were used to treat the symptoms of the disease. Genetic counselling on the risk of passing the condition on to children was recommended for families with a history of fragile X syndrome.

## How is this medicine expected to work?

Mavoglurant is expected to block certain receptors in the brain called 'metabotropic glutamate receptors 5 (mGluR5)'. These receptors are thought to be involved in helping maintain the correct functioning of brain cells. FMRP normally acts as a 'brake' to control the activity of mGluR5. When FMRP is missing in Fragile X patients, there is excessive activity of mGluR5, which is thought to contribute to the disease. By reducing the activity of these receptors, mavoglurant is expected to help reduce the severity of the disease symptoms.

## What is the stage of development of this medicine?

The effects of mavoglurant have been evaluated in experimental models.

At the time of submission of the application for orphan designation, clinical trials with mavoglurant in patients with fragile X syndrome were ongoing.

At the time of submission, mavoglurant was not authorised anywhere in the EU for fragile X syndrome. Orphan designation for fragile X syndrome had been granted in the United States of America for this condition.

In accordance with Regulation (EC) No 141/2000 of 16 December 1999, the COMP adopted a positive opinion on 5 September 2012 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:

Novartis Europharm Limited
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Camberley GU16 7SR
United Kingdom
Tel. +41 61 324 11 11 (Switzerland)
E-mail: orphan.enquiries@novartis.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 languages[1], Norwegian and Icelandic

| Language | Active ingredient | Indication |
|---|---|---|
| English | Mavoglurant | Treatment of fragile X syndrome |
| Bulgarian | Мавоглурант | Лечение на синдрома на чупливата Х хромозома |
| Czech | Mavoglurant | Léčba syndromu fragilního X |
| Danish | Mavoglurant | Behandling af fragilt X-syndrom |
| Dutch | Mavoglurant | Behandeling van het fragiele-X-syndroom |
| Estonian | Mavoglurant | Fragiilse X sündroomi ravi |
| Finnish | Mavoglurantti | Särö-X-oireyhtymän hoito |
| French | Mavoglurant | Traitement du syndrome de l'X fragile |
| German | Mavoglurant | Zur Behandlung des Fragilen-X-Syndroms |
| Greek | Μαβογκλουράντη | Θεραπεία του συνδρόμου εύθραυστου Χ |
| Hungarian | Mavoglurant | A fragilis X-szindróma kezelésére |
| Italian | Mavoglurant | Trattamento della sindrome dell'X fragile |
| Latvian | Mavoglurants | Trauslā X sindroma ārstēšanai |
| Lithuanian | Mavoglurantas | Lūžiosios X chromosomos sindromo gydymas |
| Maltese | Mavoglurant | Kura tas-sindrome ta' X fraġli |
| Polish | Mawoglurant | Leczenie zespołu łamliwego chromosomu X |
| Portuguese | Mavogluranto | Tratamento da síndrome do X frágil |
| Romanian | Mavoglurant | Tratamentul sindromului cromozomului X fragil |
| Slovak | Mavoglurant | Liečba syndrómu fragilného chromozómu X |
| Slovenian | Mavoglurant | Zdravljenje sindroma fragilnega kromosoma X |
| Spanish | Mavoglurant | Tratamiento del síndrome de X frágil |
| Swedish | Mavoglurant | Behandling av Fragil X-syndrom |
| Norwegian | Mavoglurant | Behandling av Fragilt X-syndrom |
| Icelandic | Mavóglúrant | Meðferð við heilkenni brotgjarns X (fragile X syndrome) |

[1] At the time of designation