10 May 2021
EMADOC-628903358-3740

Public summary of opinion on orphan designation

Synthetic oligonucleotide selectively targeting UBE3A antisense RNA transcripts for the treatment of Angelman syndrome

On 9 December 2020, orphan designation EU/3/20/2379 was granted by the European Commission to Roche Registration GmbH, Germany, for synthetic oligonucleotide selectively targeting UBE3A antisense RNA transcripts for the treatment of Angelman syndrome.

What is Angelman syndrome?

Angelman syndrome is an inherited disorder that mainly affects the brain. It is caused by an abnormality in the gene needed to make an enzyme called ubiquitin-protein ligase E3A (UBE3A), which is essential for normal development of the brain. Children with this condition often have delayed development, intellectual disability, severe speech impairment, problems with movement and balance, recurrent epileptic seizures (fits) and sociable behaviour with frequent smiling.

Angelman syndrome is a long-term debilitating condition due to the developmental delay, problems with movement and seizures.

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

At the time of designation, Angelman syndrome affected less than 1 in 10,000 people in the European Union (EU). This was equivalent to a total of fewer than 52,000 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).

What treatments are available?

At the time of designation, no medicines were authorised in the EU for the treatment of Angelman syndrome. Available treatments were aimed at treating some of the symptoms of the disease, such as medicines to prevent seizures.

*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, Iceland, Liechtenstein, Norway and the United Kingdom. This represents a population of 519,200,000 (Eurostat 2020).

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How is this medicine expected to work?

Angelman syndrome is caused by the absence of a working UBE3A protein. This medicine is expected to act by blocking the action of UBE3A-ATS, a section of DNA that switches off a spare copy of the gene for UBE3A. By blocking UBE3A-ATS, the medicine allows the gene to work and the body to produce normal UBE3A, thereby improving symptoms of the disease.

What is the stage of development of this medicine?

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

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

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

In accordance with Regulation (EC) No 141/2000, the COMP adopted a positive opinion on 5 November 2020, 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

Contact details of the current sponsor for this orphan designation can be found on EMA website.

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.