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EMA/COMP/380897/2016
Committee for Orphan Medicinal Products

Public summary of opinion on orphan designation

2'-O-(2-Methoxyethyl) phosphorothioate antisense oligonucleotide targeting the growth hormone receptor for the treatment of acromegaly

On 27 June 2016, orphan designation (EU/3/16/1671) was granted by the European Commission to Coté Orphan Consulting UK Limited, United Kingdom, for 2'-O-(2-methoxyethyl) phosphorothioate antisense oligonucleotide targeting the growth hormone receptor (also known as ATL1103) for the treatment of acromegaly.

What is acromegaly?

Acromegaly is a disease in which the pituitary gland, a small gland located at the base of the brain, produces too much growth hormone, leading to excess growth of body tissues and organs. Acromegaly usually affects adults in middle age. In over 90% of patients, it is caused by a benign (non-cancerous) tumour of the pituitary gland called a pituitary adenoma. The most common signs of the disease include large hands and feet, enlarged nose, lips and tongue, coarse skin with skin tags and joint aches. The disease can result in serious complications, such as severe damage to the joints and problems affecting the cardiovascular (heart and blood vessels) and respiratory (breathing) systems.

Acromegaly is a long-term debilitating and life-threatening disease because of the abnormal growth it causes in tissues and organs in the body, which leads to respiratory problems and cardiovascular disease.

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

At the time of designation, acromegaly affected less than 1.5 in 10,000 people in the European Union (EU). This was equivalent to a total of fewer than 77,000 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, several medicines were authorised in the EU to treat acromegaly, including somatostatin analogues (medicines that block the release of growth hormone) such as octreotide and lanreotide, and pegvisomant (a medicine that blocks the effects of growth hormone). Other treatments included surgery and, in rare cases, radiotherapy (treatment with radiation).

The sponsor has provided sufficient information to show that this medicine might be of significant benefit for patients with acromegaly. This is based on laboratory studies showing that the medicine may lead to greater reductions in the blood levels of growth-related hormones than with some of the currently authorised products and it may also be used in combination with other medicines. 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?

This medicine is an 'antisense oligonucleotide', a small strand of synthetic genetic material. It has been designed to attach to the genetic material of cells responsible for producing the human growth hormone receptor, blocking its production. Growth hormone needs to attach to this receptor to have its effect. By blocking production of the receptor, the medicine is expected to prevent growth hormone from having an effect, thereby improving the 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, clinical trials with the medicine in patients with acromegaly were ongoing.

At the time of submission, this medicine was not authorised anywhere in the EU for acromegaly. Orphan designation of the medicine has been granted in the United States for this condition.

In accordance with Regulation (EC) No 141/2000 of 16 December 1999, the COMP adopted a positive opinion on 19 May 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	2'-O-(2-methoxyethyl)phosphorothioate antisense oligonucleotide targeting the growth hormone receptor	Treatment of acromegaly
Bulgarian	2'-O-(2-метоксиетил)фосфоротиоат антисенс олигонуклеотид, насочен към рецептора на растежния хормон	Лечение на акромегалия
Croatian	2'-O-(2-metoksietil)fosforotioat antisens oligonukleotid kojemu je cilj receptor hormona rasta	Liječenje akromegalije
Czech	2'-O-(2-methoxyethyl)fosforothioát antisense oligonukleotid cílený proti receptoru růstového hormonu	Léčba akromegalie
Danish	2'-O-(2-methoxyethyl)phosphorthioat-antisense-oligonukleotid rettet mod væksthormonreceptoren	Behandling af akromegali
Dutch	2'-O-(2-methoxyethyl)-fosforothioaat-antisense-oligonucleotide gericht op de groeihormoonreceptor	Behandeling van acromegalie
Estonian	Kasvuhormooni retseptorile suunatud 2'-O-(2-metoksüetüüli)fosforotioaadi *antisense*-oligonukleotiid	Akromegaalia ravi
Finnish	2'-O-(2-metoksietyyli)fosforotioaatti-antisense-oligonukleotidi, jonka kohteena on kasvuhormoni reseptori	Akromegalian hoito
French	Oligonucléotide anti-sens phosphorothioate 2'-O-(2-méthoxyéthyle) ciblant le récepteur de l'hormone de croissance	Traitement de l'acromégalie
German	Auf den Wachstumshormonrezeptor abzielendes 2'-O-(2-Methoxyethyl)Phosphorothioat-Antisense-Oligonukleotid	Behandlung der Akromegalie
Greek	Αντινοηματικό ολιγονουκλεοτίδιο 2'-O-(2-μεθοξυαιθυλ)φωσφοροθειοάτης με στόχο τον υποδοχέα της αυξητικής ορμόνης	Θεραπεία της ακρομεγαλίας
Hungarian	2'-O-(2-metoxi-etil)-foszforotioát antiszensz oligonukleotid, amely a növekedésihormon-receptort célozza	Acromegália kezelésére
Italian	Oligonucleotide antisenso 2'-O-(2-metossietil)fosforotioato diretto al recettore dell'ormone della crescita	Trattamento dell'acromegalia
Latvian	2'-O-(2-metoksietil)fosfortioāta antisensa oligonukleotīds, kura mērķis ir augšanas hormona receptors	Akromegālijas ārstēšana
Lithuanian	2'-O-(2-metoksietil)fosforotiato priešprasminis oligonukleotidas, nukreiptas prieš augimo hormono receptorių	Akromegalijos gydymas

[1] At the time of designation

Language	Active ingredient	Indication
Maltese	Oligonukleotide antisens għal 2'-O-(2-methoxyethyl)phosphorothioate immirat għar-riċettur tal-ormon tat-tkabbir	Kura ta' l-akromegalija
Polish	2'-O-(2-metoksyetylo)tiofosforanowy antysensowny oligonukleotyd specyficzny dla receptora hormonu wzrostu	Leczenie akromegalii
Portuguese	Oligonucleótido *antisense* de fosforotioato de 2'-O-(2-metoxietilo)direcionado para o recetor da hormona de crescimento	Tratamento da acromegália
Romanian	Oligonucleotid antisens 2'-O-(2-metoxietil)fosforotioat ce ţinteşte receptorul hormonului de creştere	Tratamentul acromegaliei
Slovak	2'-O-(2-metoxyetyl)fosforotioát antisense oligonukleotid zacielený na receptor rastového hormónu	Liečba akromegálie
Slovenian	2'-O-(2-metoksietil)fosforotioat protismerni oligonukleotid, usmerjen na receptor rastnega hormona	Zdravljenje akromegalije
Spanish	Oligonucleótido fosforotioato antisentido 2'-O-(2-metoxietil) que actúa selectivamente sobre el receptor de la hormona del crecimiento	Tratamiento de la acromegalia
Swedish	2'-O-(2-metoxietyl)-fosfortioat antisense-oligonukleotid riktad mot tillväxthormonreceptorn	Behandling av akromegali
Norwegian	2'-O-(2-metoksyetyl)fosfortioat-antisense-oligonukleotid som påvirker veksthormonreseptoren	Behandling af akromegali
Icelandic	2'-O-(2-metoxýetýl)fosfórþíóat andþætt ólígónúkleótíðlyf sem binst vaxtarhormónsviðtaka	Meðhöndlun æsavvaxtar