22 June 2017
EMA/259560/2017

Public summary of opinion on orphan designation

Sodium (1R,3R,4R,5S)-3-({2-N-acetylamino-2-deoxy-3-O-[(1S)-1-carboxylato-2-cyclohexylethyl]-beta-D-galactopyranosyl}oxy)-4-({6-deoxy-alpha-L-galactopyranosyl}oxy)-5-ethyl-cyclohexan-1-yl-(38-oxo-2,5,8,11,14,17,20,23,26,29,32,35-dodecaoxa-39-azahentetracontan-41-yl)carboxamide for the treatment of acute myeloid leukaemia

On 22 May 2017, orphan designation (EU/3/17/1876) was granted by the European Commission to TMC Pharma Services Ltd, United Kingdom, for sodium (1R,3R,4R,5S)-3-({2-N-acetylamino-2-deoxy-3-O-[(1S)-1-carboxylato-2-cyclohexylethyl]-beta-D-galactopyranosyl}oxy)-4-({6-deoxy-alpha-L-galactopyranosyl}oxy)-5-ethyl-cyclohexan-1-yl-(38-oxo-2,5,8,11,14,17,20,23,26,29,32,35-dodecaoxa-39-azahentetracontan-41-yl)carboxamide (also known as GMI-1271) for the treatment of acute myeloid leukaemia.

What is acute myeloid leukaemia?

Acute myeloid leukaemia (AML) is a cancer of the white blood cells (cells that fight infections). In patients with AML, the bone marrow (the spongy tissue inside the large bones, where blood cells are produced) produces large numbers of abnormal, immature white blood cells. These abnormal cells quickly build up in large numbers in the bone marrow and are found in the blood.

AML is a long-term debilitating and life-threatening disease because these abnormal immature cells take the place of the normal blood cells, causing bleeding episodes, blood clots and a reduced ability to fight infections.

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

At the time of designation, AML affected approximately 1.3 in 10,000 people in the European Union (EU). This was equivalent to a total of around 67,000 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 515,700,000 (Eurostat 2017).

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What treatments are available?

Treatment for AML is complex and depends on a number of factors including the extent of the disease, whether it has been treated before, and the patient's age, symptoms and general state of health. At the time of designation, the main treatments for AML were chemotherapy (medicines to treat cancer) and haematopoietic (blood) stem-cell transplantation (a procedure where the patient's bone marrow is cleared of cells and replaced by stem cells to form new bone marrow that produces healthy blood cells).

The sponsor has provided sufficient information to show that the medicine might be of significant benefit for patients with AML because early studies have shown improvement in patients whose disease had not got better with other treatment or came back after treatment. 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?

In patients with AML, the AML cancer cells attach to a substance called E-selectin which is present in the bone marrow. This attachment allows AML cells to resist the effects of chemotherapy and encourages build-up of the cells in the bone marrow. The medicine blocks the action of E-selectin. This is expected to cause the AML cells to move out of the bone marrow and make them more susceptible to cancer medicines, resulting in death of the cancer cells.

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 AML were ongoing.

The medicine was not authorised anywhere in the EU for AML. Orphan designation of the medicine had been granted in the United States for AML.

In accordance with Regulation (EC) No 141/2000 of 16 December 1999, the COMP adopted a positive opinion on 11 April 2017 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	Sodium (1R,3R,4R,5S)-3-({2-N-acetylamino-2-deoxy-3-O-[(1S)-1-carboxylato-2-cyclohexylethyl]-beta-D-galactopyranosyl}oxy)-4-({6-deoxy-alpha-L-galactopyranosyl}oxy)-5-ethyl-cyclohexan-1-yl-(38-oxo-2,5,8,11,14,17,20,23,26,29,32,35-dodecaoxa-39-azahentetracontan-41-yl)carboxamide	Treatment of acute myeloid leukaemia
Bulgarian	Натрий (1R,3R,4R,5S)-3-({2-N-ацетиламино-2-деокси-3-O-[(1S)-1-карбоксилато-2-циклохексилетил]-β-D-галактопираносил}окси)-4-({6-деокси-α-L-галактопираносил}окси)-5-етил-циклохексан-1-ил-(38-оксо-2,5,8,11,14,17,20,23,26,29,32,35-додекаокса-39-азахентетраконтан-41-ил)карбоксамид	Лечение на остра миелоидна левкемия
Croatian	Natrij (1R,3R,4R,5S)-3-({2-N-acetilamino-2-deoksi-3-O-[(1S)-1-karboksilato-2-cikloheksiletil]-beta-D-galaktopiranozil}oksi)-4-({6-deoksi-alfa-L-galaktopiranozil}oksi)-5-etil-cikloheksan-1-il-(38-okso-2,5,8,11,14,17,20,23,26,29,32,35-dodekaoksa-39-azahentetrakontan-41-yl)karboksamid	Liječenje akutne mijeloične leukemije
Czech	(1R,3R,4R,5S)-3-({2-N-acetylamino-2-deoxy-3-O-[(1S)-1-karboxyláto-2-cyklohexylethyl]-beta-D-galaktopyranozyl}oxy)-4-({6-deoxy-alfa-L-galaktopyranozyl}oxy)-5-ethyl-cyklohexan-1-yl-(38-oxo-2,5,8,11,14,17,20,23,26,29,32,35-dodekaoxa-39-azahentetrakontan-41-yl)karboxamid sodný	Léčba akutní myeloidní leukémie
Danish	Natrium (1R,3R,4R,5S)-3-({2-N-acetylamino-2-deoxy-3-O-[(1S)-1-carboxylato-2-cyclohexylethyl]-beta-D-galactopyranosyl}oxy)-4-({6-deoxy-alfa-L-galactopyranosyl}oxy)-5-ethyl-cyclohexan-1-yl-(38-oxo-2,5,8,11,14,17,20,23,26,29,32,35-dodecaoxa-39-azahentetracontan-41-yl)carboxamid	Behandling af akut myeloid leukæmi
Dutch	Natrium (1R,3R,4R,5S)-3-({2-N-acetylamino-2-deoxy-3-O-[(1S)-1-carboxylato-2-cyclohexylethyl]-beta-D-galactopyranosyl}oxy)-4-({6-deoxy-alfa-L-galactopyranosyl}oxy)-5-ethyl-cyclohexaan-1-yl-(38-oxo-2,5,8,11,14,17,20,23,26,29,32,35-dodecaoxa-39-azahentetracontan-41-yl)carboxamide	Behandeling van acute myeloïde leukemie

[1] At the time of designation

Language	Active ingredient	Indication
Estonian	Naatrium (1R,3R,4R,5S)-3-({2-N-atsetüülamiin-2-deoksü-3-O-[(1S)-1-karboksülaat-2-tsükloheksüületüül]-beta-D-galaktopüranosüül}oksü)-4-({6-deoksü-alfa-L-galaktopüranosüül}oksü)-5-etüül-tsükloheksaan-1-üül-(38-okso-2,5,8,11,14,17,20,23,26,29,32,35-dodekaoksa-39-asahentetrakontaan-41-üül)karboksamiid	Akuutse müeloidse leukeemia ravi
Finnish	Natrium(1R,3R,4R,5S)-3-({2-N-asetyyliamino-2-deoksi-3-O-[(1S)-1-karboksylaatto-2-sykloheksyylietyyli]-beta-D-galaktopyranosyyli}oksi)-4-({6-deoksi-alfa-L-galaktopyranosyyli}oksi)-5-etyylisykloheksan-1-yyli-(38-okso-2,5,8,11,14,17,20,23,26,29,32,35-dodekaoksa-39-atsahentetrakontan-41-yyli)karboksamidi	Akuutin myelooisen leukemian hoito
French	Amide d'acide carboxylique (1R,3R,4R,5S)-3-({2-N-acetylamino-2-désoxy-3-O-[(1S)-1-carboxylato-2-cyclohexyléthyl]-beta-D-galactopyranosyl}oxy)-4-({6-désoxy-alpha-L-galactopyranosyl}oxy)-5-éthyl-cyclohexan-1-yl-(38-oxo-2,5,8,11,14,17,20,23,26,29,32,35-dodécaoxa-39-azahentétracontan-41-yl)sodique	Traitement de la leucémie aiguë myéloïde
German	Natrium (1R,3R,4R,5S)-3-({2-N-acetylamino-2-deoxy-3-O-[(1S)-1-carboxylato-2-cyclohexylethyl]-beta-D-galactopyranosyl}oxy)-4-({6-deoxy-alpha-L-galactopyranosyl}oxy)-5-ethyl-cyclohexan-1-yl-(38-oxo-2,5,8,11,14,17,20,23,26,29,32,35-dodecaoxa-39-azahentetracontan-41-yl)carboxamid	Behandlung der akuten myeloischen Leukämie
Greek	(1R,3R,4R,5S)-3-({2-N-ακετυλαμινο-2-δεοξυ-3-O-[(1S)-1-καρβοξυλατο-2-κυκλοεξυλαιθυλ]-β-D-γαλακτοπυρανοσυλ}οξυ)-4-({6-δεοξυ-α-L-γαλακτοπυρανοσυλ}οξυ)-5-αιθυλ-κυκλοεξαν-1-υλ-(38-οξο-2,5,8,11,14,17,20,23,26,29,32,35-δωδεκαοξα-39-αζαχεντετρακονταν-41-υλ)καρβοξαμίδιο νατρίου	Θεραπεία της οξείας μυελοειδούς λευχαιμίας
Hungarian	Nátrium (1R,3R,4R,5S)-3-({2-N-acetilamino-2-deoxi-3-O-[(1S)-1-karboxilát-2-ciklohexil-etil]-beta-D-galaktopiranozil}oxi)-4-({6-deoxi-alfa-L-galaktopiranozil}oxi)-5-etil-ciklohexán-1-il-(38-oxo-2,5,8,11,14,17,20,23,26,29,32,35-dodekaoxa-39-azahentetrakontán-41-il)karboxamid	Akut myeloid leukaemia kezelése
Italian	Sodio (1R,3R,4R,5S)-3-({2-N-acetilamino-2-deossi-3-O-[(1S)-1-carbossilato-2-cicloessiletil]-beta-D-galactopiranosil}ossi)-4-({6-deossi-alfa-L-galactopiranosil}ossi)-5-etil-cicloesano-1-il-(38-osso-2,5,8,11,14,17,20,23,26,29,32,35-dodecaossa-39-azaentetracontan-41-yl)carbossamide	Trattamento della leucemia mieloide acuta

Language	Active ingredient	Indication
Latvian	Nātrija (1R,3R,4R,5S)-3-({2-N-acetilamino-2-deoksi-3-O-[(1S)-1-karboksilāt-2-cikloheksiletil]-beta-D-galaktopiranosil}oksi)-4-({6-deoksi-alfa-L-galaktopiranosil}oksi)-5-etil-cikloheksān-1-il-(38-okso-2,5,8,11,14,17,20,23,26,29,32,35-dodekaoksa-39-azahentetrakontān-41-il)karboksamīds	Akūtas mieloleikozes ārstēšana
Lithuanian	Natrio (1R,3R,4R,5S)-3-({2-N-acetilamino-2-deoksi-3-O-[(1S)-1-karboksilato-2-cikloheksiletil]-beta-D-galaktopiranozil}oksi)-4-({6-deoksi-alfa-L-galaktopiranozil}oksi)-5-etil-cikloheksan-1-il-(38-okso-2,5,8,11,14,17,20,23,26,29,32,35-dodekaoksa-39-azahentetrakontan-41-il)karboksamidas	Ūmios mieloleukozės gydymas
Maltese	Sodju (1R,3R,4R,5S)-3-({2-N-aċetilamino-2-deossi-3-O-[(1S)-1-karbossilat-2-ċikloeżiletil]-beta-D-galattopiranosil}ossi)-4-({6-deossi-alfa-L-galattopiranosil}ossi)-5-etil-ċikloeżan-1-il-(38-osso-2,5,8,11,14,17,20,23,26,29,32,35-dodekaossa-39-użentetrakontan-41-il)karbossamur	Kura tal-lewkimja mjelojda akuta
Polish	(1R,3R,4R,5S)-3-({2-N-acetyloamino-2-deoksy-3-O-[(1S)-1-karboksylato-2-cykloheksyloetylo]-beta-D-galaktopiranozylo}oksy)-4-({6-deoksy-alfa-L-galaktopiranozylo}oksy)-5-etylo-cykloheksano-1-ylo-(38-okso-2,5,8,11,14,17,20,23,26,29,32,35-dodekaoksa-39-azahentetrakontano-41-ylo)karboksyamid sodu	Leczenie ostrej białaczki szpikowej
Portuguese	Carboxamida de sódio (1R,3R,4R,5S)-3-({2-N-acetilamina-2-desoxi-3-O-[(1S)-1-carboxilato-2-ciclohexiletilol]-beta-D-galactopiranosil}oxi)-4-({6-desoxi-alfa-L-galactopiranosil}oxi)-5-etilo-ciclohexano-1-il-(38-oxo-2,5,8,11,14,17,20,23,26,29,32,35-dodecaoxa-39-azahentetracontan-41-il)	Tratamento da leucémia mielóide aguda
Romanian	(1R,3R,4R,5S)-3-({2-N-acetilamino-2-deoxi-3-O-[(1S)-1-carboxilato-2-ciclohexiletil]-beta-D-galactopiranosil}oxi)-4-({6-deoxi-alpha-L-galactopiranozil}oxi)-5-etil-ciclohexan-1-il-(38-oxo-2,5,8,11,14,17,20,23,26,29,32,35-dodecaoxa-39-azahentetracontan-41-il)carboxamidă sodică	Tratamentul leucemiei mieloide acute
Slovak	(1R,3R,4R,5S)-3-({2-N-acetylamino-2-deoxy-3-O-[(1S)-1-karboxyláto-2-cyklohexyletyl]-beta-D-galaktopyranozyl}oxy)-4-({6-deoxy-alfa-L-galaktopyranozyl}oxy)-5-etyl-cyklohexan-1-yl-(38-oxo-2,5,8,11,14,17,20,23,26,29,32,35-dodekaoxa-39-azahentetrakontan-41-yl)karboxamid sodný	Liečba akútnej myeloickej leukémie

Language	Active ingredient	Indication
Slovenian	Natrijev (1R,3R,4R,5S)-3-({2-N-acetilamino-2-deoksi-3-O-[(1S)-1-karboksilato-2-cikloheksiletil]-beta-D-galaktopiranozil}oksi)-4-({6-deoksi-alfa-L-galaktopiranozil}oksi)-5-etil-cikloheksan-1-yl-(38-okso-2,5,8,11,14,17,20,23,26,29,32,35-dodekaoksa-39-azahentetrakontan-41-il)karboksamid	Zdravljenje akutne mieloične levkemije
Spanish	(1R,3R,4R,5S)-3-({2-N-acetilamino-2-desoxi-3-O-[(1S)-1-carboxilato-2-ciclohexiletil]-beta-D-galactopiranosil}oxi)-4-({6-desoxi-alfa-L-galactopiranosil}oxi)-5-etil-ciclohexan-1-il-(38-oxo-2,5,8,11,14,17,20,23,26,29,32,35-dodecaoxa-39-azahentetracontan-41-il)carboxamida de sodio	Tratamiento de la leucemia mieloide aguda
Swedish	Natrium (1R,3R,4R,5S)-3-({2-N-acetylamino-2-deoxi-3-O-[(1S)-1-karboxylat-2-cyklohexyletyl]-beta-D-galaktopyranosyl}oxi)-4-({6-deoxi-alfa-L-galaktopyranosyl}oxi)-5-etyl-cyklohexan-1-yl-(38-oxo-2,5,8,11,14,17,20,23,26,29,32,35-dodekaoxa-39-azahentetrakontan-41-yl)karboxamid	Behandling av akut myeloisk leukemi
Norwegian	Natrium (1R,3R,4R,5S)-3-({2-N-acetylamino-2-deoksy-3-O-[(1S)-1-karboksylat-2-sykloheksyletyl]-beta-D-galaktopyranosyl}oksy)-4-({6-deoksy-alfa-L-galaktopyranosyl}oksy)-5-etyl-sykloheksan-1-yl-(38-okso-2,5,8,11,14,17,20,23,26,29,32,35-dodekaoksa-39-azahentetrakontan-41-yl)karboksamid	Behandling av akutt myelogen leukemi
Icelandic	Natríum (1R,3R,4R,5S)-3-({2-N-asetýlamínó-2-deoxý-3-O-[(1S)-1-karboxýlató-2-sýklóhexýletýl]-beta-D-galaktópýranósýl}oxý)-4-({6-deoxý-alfa-L-galaktópýranósýl}oxý)-5-etýl-sýklóhexan-1-ýl-(38-oxó-2,5,8,11,14,17,20,23,26,29,32,35-dódekaoxa-39-asahentetrakontan-41-ýl)karboxamíð	Meðferð við bráðu kyrningahvítblæði