18 June 2013
EMA/COMP/268991/2013
Committee for Orphan Medicinal Products

# Public summary of opinion on orphan designation

## Inotuzumab ozogamicin for the treatment of B-cell acute lymphoblastic leukaemia

On 7 June 2013, orphan designation (EU/3/13/1127) was granted by the European Commission to Pfizer Limited, United Kingdom, for inotuzumab ozogamicin for the treatment of B-cell acute lymphoblastic leukaemia.

### What is B-cell acute lymphoblastic leukaemia?

Acute lymphoblastic leukaemia (ALL) is a cancer of the white blood cells called lymphocytes. Lymphocytes include T cells and B cells, and in B-cell ALL the lymphocytes affected are B-cells, which multiply too quickly and live for too long so there are too many of them circulating in the blood. These abnormal B-cells are not fully developed and do not work properly. Over a period of time, they replace the normal white blood cells, red blood cells and platelets in the bone marrow (the spongy tissue inside the large bones in the body, where blood cells are produced).

B-cell ALL is a long-term debilitating and life-threatening disease because the abnormal immature cells take the place of the normal white blood cells, reducing the patient's ability to fight infections and causing organ damage.

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

At the time of designation, B-cell ALL affected approximately 0.4 in 10,000 people in the European Union (EU). This was equivalent to a total of around 20,000 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?

Treatment for B-cell ALL 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

[*]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 509,000,000 (Eurostat 2013).

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health. At the time of designation, the main treatment for B-cell ALL was chemotherapy (medicines to treat cancer) followed by or combined with radiotherapy (treatment with radiation). Haematopoietic (blood) stem cell transplantation was also used. This is a complex procedure where the patient receives stem cells from a matched donor to help restore the bone marrow.

The sponsor has provided sufficient information to show that inotuzumab ozogamicin might be of significant benefit for the treatment of B-cell ALL because it selectively targets the abnormal B-cell causing the leukaemia and early studies show beneficial effects in patients not responding to previous treatment. These assumptions 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?

Inotuzumab ozogamicin is made up of two components:

- calicheamicin, a substance toxic for cells;
- a monoclonal antibody (a type of protein) that has been designed to recognise and attach to CD22, a protein that is found on the surface of B-cells where it regulates their activation and interaction with other cells of the immune system.

Once attached to the cancerous B-cell, the medicine is expected to be taken up by the cell where calicheamicin becomes active, causing breaks in its DNA and thereby killing the cancer cell.

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

The effects of inotuzumab ozogamicin 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 B-cell ALL were ongoing.

At the time of submission, inotuzumab ozogamicin was not authorised anywhere in the EU for B-cell ALL. It has been designated as an orphan medicinal product 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 17 April 2013 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:

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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 languages[1], Norwegian and Icelandic

| Language | Active ingredient | Indication |
|---|---|---|
| English | Inotuzumab ozogamicin | Treatment of B-cell acute lymphoblastic leukaemia |
| Bulgarian | Инотузимаб озогамицин | Лечение на В-клетъчна остра лимфобластна левкемия |
| Czech | Inotuzumab Ozogamicin | Léčba akutní B-lymfoblastické leukemie |
| Danish | Inotuzumab Ozogamicin | Til behandling af akut lymfoblastær leukæmi (ALL) af B-celle type |
| Dutch | Inotuzumab ozogamicine | Behandeling van B-cel acute lymfoblastische leukemie |
| Estonian | Inotuzumaab ozogamitsiin | B-rakulise ägeda lümfoblastilise leukeemia ravi |
| Finnish | Inotutsumabi-otsogamisiini | Akuutin B-soluisen lymfoblastileukemian hoito |
| French | Inotuzumab Ozogamicine | Traitement des leucémies aiguës lymphoblastiques de type B |
| German | Inotuzumab Ozogamicin | Behandlung der akuten lymphoblastischen Leukämie vom B-Zell-Typ. |
| Greek | Ινοτουζουμάμπη Οζογαμικίνη | Για τη θεραπεία της Οξείας Λεμφοβλαστικής Λευχαιμίας Β-λεμφοκυττάρων |
| Hungarian | Inotuzumab Ozogamicin | B-sejtes akut lymphoblastos leukaemia kezelése |
| Italian | Inotuzumab Ozogamicin | Trattamento della leucemia linfoblastica acuta a cellule B |
| Latvian | Inotuzumaba ozogamicīns | B-šūnu akūtas limfoblastiskas leikozes ārstēšanai. |
| Lithuanian | Inotuzumabo ozogamicinas | Ūminės limfoblastinės B ląstelių leukemijos (leukozės) gydymas. |
| Maltese | Inotuzumab ozogamicin | Kura ta' lewkimja limfoblastika akuta taċ-ċelluli tat-tip B |
| Polish | Inotuzumab ozogamycyny | Leczenie ostrej białaczki limfoblastycznej komórek B. |
| Portuguese | Inotuzumab ozogamicina | Tratamento da Leucemia Linfoblástica Aguda de células B |
| Romanian | Inotuzumab Ozogamicină | Tratamentul leucemiei acute limfoblastice cu celule B |
| Slovak | Inotuzumab ozogamicín | Liečba B bunkovej akútnej lymfoblastickej leukémie |
| Slovenian | Inotuzumab ozogamicin | Zdravljenje akutne B-celične limfoblastne levkemije |
| Spanish | Inotuzumab Ozogamicina | Tratamiento de la leucemia linfoblástica aguda de células B |
| Swedish | Inotuzumab Ozogamicin | Behandling av akut lymfatisk leukemi (ALL) av B-cellstyp |
| Norwegian | Inotuzumabozogamicin | Behandling av akutt B-lymfoblastisk leukemi |

[1] At the time of designation

| Language | Active ingredient | Indication |
|---|---|---|
| Icelandic | Ínótúzúmab ózógamícín | Til meðferðar á bráðu B-eitilkímfrumuhvítblæði |