



EUROPEAN MEDICINES AGENCY  
SCIENCE MEDICINES HEALTH

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Committee for Orphan Medicinal Products

## Public summary of opinion on orphan designation

### Human monoclonal antibody against CD4 for the for the treatment of cutaneous T cell lymphoma

On 14 April 2004, orphan designation (EU/3/04/198) was granted by the European Commission to Genmab A/S, Denmark, for human monoclonal antibody against CD4 for the treatment of cutaneous T cell lymphoma.

The sponsorship was transferred to Serono Europe Limited, United Kingdom, in April 2006, to Genmab A/S, Denmark, in March 2008 and subsequently to TenX Biopharma Ltd, United Kingdom, in September 2010.

#### **What is cutaneous T cell lymphoma?**

Cutaneous T cell lymphoma is a type of cancer of the lymphatic system. The lymphatic system is part of the body's immune system and helps fighting infections. It is a complex system made up of organs such as the bone marrow, the thymus (a gland behind the breast bone), the spleen (an organ in the abdomen, near the stomach), and the lymph nodes (or lymph glands, located throughout the body), which are connected by a network of tiny lymphatic vessels. There are two main types of cells, which make up the lymphatic tissue. These cells are called lymphocytes and belong to the group of white blood cells. The two types are called B lymphocytes (B cells) and T lymphocytes (T cells). Most lymphocytes start growing in the bone marrow. The T cells go from the bone marrow to the thymus where they continue to mature. Cutaneous T-cell lymphoma is a cancer of the T-lymphocytes which mainly affects the skin and most often occurs in people aged between 40 and 60. It is caused by the uncontrolled growth of the T-cells. Cutaneous T-cell lymphoma is a serious and life-threatening condition.

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

At the time of designation, cutaneous T cell lymphoma affected approximately 1 in 10,000 people in the European Union (EU)\*. This is equivalent to a total of around 39,000 people, and is below the

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\*Disclaimer: The number of patients affected by the condition is estimated and assessed for the purpose of the designation, for a European Community population of 385,000,000 (Eurostat 2002) and may differ from the true number of patients affected by the condition. This estimate is based on available information and calculations presented by the sponsor at the time of the application.



threshold 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?**

Current treatment for cutaneous T-cell lymphoma can be divided into local treatment and systemic treatment. Local treatments include medicines applied to the skin, therapies using light of a particular wavelength (ultraviolet light) and x-rays. Systemic treatments include medicines such as glucocorticosteroids (a group of medicines that are similar to cortisone), cytotoxic agents (medicines that kill cells), interferon-alfa (a compound that can help the immune system to fight against the cancer cells) and photopheresis (white blood cells are modified by exposure to ultraviolet light). Several products were authorised for the treatment of cutaneous T-cell lymphoma within the Community at the time of submission of the application for orphan drug designation.

Human monoclonal antibody against CD4 might be of potential significant benefit for the treatment of cutaneous T-cell lymphoma because it may act in a different way than other available medicines. This assumption remains to be proven. This will be necessary to maintain the orphan status.

### **How is this medicine expected to work?**

Antibodies are proteins in the body that target specific shapes (receptors) on the surface of foreign bodies, such as bacteria or cancer cells. Human monoclonal antibody against CD4 is a human protein (immunoglobulin) that is able to recognise and bind to a receptor present on the surface of T cells; the receptor is called CD4. The union of the receptor and the antibody would trigger a reaction that would end in the destruction of the cells that bear this receptor. In the case of cutaneous T cell lymphoma, these CD4 receptor-containing cells are those that show an uncontrolled growth (proliferation). Although the mechanisms through which the cells are killed have not been fully explained it seems that the union of the antibody and the receptor could have two effects, first the stimulation of other specific T cells (the so-called natural killer cells) aimed to destroy abnormal cells and secondly the inhibition of the proliferation of T cells that bear the CD4 receptor.

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

At the time of submission of the application for orphan designation, clinical trials in patients with cutaneous T cell lymphoma were ongoing.

Human monoclonal antibody against CD4 was not marketed anywhere worldwide for cutaneous T cell lymphoma or designated as orphan medicinal product elsewhere for this condition, at the time of submission.

In accordance with Regulation (EC) No 141/2000 of 16 December 1999, the COMP adopted a positive opinion on 16 March 2004 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**

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<sup>1</sup>, Norwegian and Icelandic

Language	Active ingredient	Indication
English	Human monoclonal antibody against CD4	Treatment of cutaneous T-cell lymphoma
Bulgarian	Човешко моноклонално антитяло срещу CD4	Лечение на кожен Т-клетъчен лимфом
Czech	Lidská monoklonální protilátka anti CD4	Léčba kožního T-lymfomu
Danish	Humant monoklonalt antistof mod CD4	Behandling af kutant T-celle-lymfom
Dutch	Humane monoklonale antilichamen tegen CD4	Behandeling van cutaan T-cel-lymfoom
Estonian	Inimese monoklonaalne antikeha CD4 vastu	Kutaanse T-rakulise lümfoomi ravi
Finnish	Ihmisperäinen monoklonaalinen vasta-aine CD4:lle	Ihon T-solulymfooman hoito
French	Anticorps monoclonal humain dirigé contre les CD4	Traitement des lymphomes cutanés à cellules T
German	Humaner monoklonaler Anti-CD4-Antikörper	Behandlung von kutanem T-Zell-Lymphom
Greek	Μονοκλωνικό αντίσωμα κατά του CD4	Θεραπεία του δερματικού λεμφώματος Τ κυττάρων
Hungarian	CD4 elleni humán monoklonális ellenanyag	T-sejtes kután lymphoma kezelésére
Italian	Anticorpo monoclonale umano anti-CD4	Trattamento del linfoma cutaneo a cellule T
Latvian	Cilveka monoklonālas antivielas pret CD4	Adas T-šunu limfomas arstešana
Lithuanian	Žmogaus monokloniniai antikūnai prieš CD4	Odos T-ląstelių limfomos gydymas
Maltese	Anti-korp monoklonali uman kontra ċ-ĊD4	Kura tal-linfoma taċ-ċelluli tat-tip T tal-ġilda
Polish	Ludzkie przeciwciało monoklonalne przeciwko CD4	Leczenie chłoniaka skórniego z komórek T
Portuguese	Anticorpo monoclonal humano anti-CD4	Tratamento do linfoma cutâneo das células T
Romanian	Anticorp monoclonal uman anti CD4	Tratamentul limfomului cutanat cu celule - T
Slovak	Monoklonálne protilátky proti CD4	Liečba kutánneho T-bunkového lymfómu
Slovenian	Človeško protitelesce za CD4 receptorje	Zdravljenje pacientov s kožnim T limfomom naravnih ubijalk (limfom T/NU)
Spanish	Anticuerpo monoclonal humano anti-CD4	Tratamiento de linfoma cutáneo de células T

<sup>1</sup> At the time of transfer of sponsorship

<b>Language</b>	<b>Active ingredient</b>	<b>Indication</b>
Swedish	Human monoclonal CD4-antikropp	Behandling av kutant T-cellslymfom