



EUROPEAN MEDICINES AGENCY
SCIENCE MEDICINES HEALTH

2 February 2016
EMA/COMP/866871/2015
Committee for Orphan Medicinal Products

Public summary of opinion on orphan designation

Entolimod for the treatment of acute radiation syndrome

On 11 January 2016, orphan designation (EU/3/15/1607) was granted by the European Commission to TMC Pharma Services Ltd, United Kingdom, for entolimod for the treatment of acute radiation syndrome.

What is acute radiation syndrome?

Acute radiation syndrome (also known as radiation sickness) is a severe illness caused by exposure of the body to a high dose of radiation in a very short period of time. This can occur, for example, following an accident at a nuclear power plant or the use of radioactive material for medical purposes.

Symptoms can begin within a few hours after exposure and their severity depends on the amount of radiation absorbed by the body. Relatively small amounts result in gastrointestinal effects such as nausea (feeling sick), vomiting and diarrhoea, reduction in blood cell count, and tendency to infection and bleeding. Relatively large amounts can result in effects on the central nervous system (brain and spinal cord) and rapid death.

Acute radiation syndrome is a life-threatening condition because it can lead to failure of multiple organs and death.

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

At the time of designation, acute radiation syndrome affected less than 0.01 in 10,000 people in the European Union (EU). This was equivalent to a total of fewer than 500 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 satisfactory methods were authorised in the EU for the treatment of acute radiation syndrome.

*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 512,900,000 (Eurostat 2015).



How is this medicine expected to work?

Entolimod is expected to work by attaching to a protein on the surface of body cells known as toll-like receptor 5 (TLR5). The attachment to TLR5 triggers the release of substances, whose effects include regeneration of tissue and increased cell survival. These effects are expected to reduce the damage caused by radiation to cells in the bone marrow and gastrointestinal tract, lowering the risk of bleeding and infection and thereby helping to improve recovery.

What is the stage of development of this medicine?

The effects of entolimod have been evaluated in experimental models. For ethical reasons, no clinical trials in patients with acute radiation syndrome are planned.

At the time of submission of the application for orphan designation, the medicine was not authorised anywhere in the EU for acute radiation syndrome. Orphan designation had been granted in the United States for preventing death following a potentially lethal dose of radiation in a radiation disaster.

In accordance with Regulation (EC) No 141/2000 of 16 December 1999, the COMP adopted a positive opinion on 10 December 2015 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:

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 languages¹, Norwegian and Icelandic

Language	Active ingredient	Indication
English	Entolimod	Treatment of acute radiation syndrome
Bulgarian	Ентолимод	Лечение на остра лъчева болест
Croatian	Entolimod	Liječenje akutnog radijacijskog sindroma
Czech	Entolimod	Léčba akutní radiační syndromu
Danish	Entolimod	Behandling af akut bestråling syndrom
Dutch	Entolimod	Behandeling van stralingsziekte
Estonian	Entolimod	Ägeda kiirgus sündroomi ravi
Finnish	Entolimodi	Säteily sairauden hoito
French	Entolimod	Traitement du syndrome d'irradiation aiguë
German	Entolimod	Behandlung der Strahlenkrankheit
Greek	Εντολιμόδη	Θεραπεία του συνδρόμου οξείας ακτινοβόλησης
Hungarian	Entolimod	Sugárbetegség kezelése
Italian	Entolimod	Trattamento della sindrome acuta da radiazioni
Latvian	Entolimods	Akūta radiācijas sindroma ārstēšana
Lithuanian	Entolimodas	Ūminio radiacinio sindromo gydymas
Maltese	Entolimod	Kura tas-sindrome ta' radjazzjoni akuta
Polish	Entolimod	Leczenie ostrej choroby popromiennej
Portuguese	Entolimod	Tratamento do síndrome agudo das radiações
Romanian	Entolimod	Tratamentul sindromului acut de iradiere
Slovak	Entolimod	Liečba akútnehoradiačného syndrómu
Slovenian	Entolimod	Zdravljenje akutnega radiacijskega sindroma
Spanish	Entolimod	Tratamiento del síndrome de radiación aguda
Swedish	Entolimod	Behandling av akut strålningsyndrom
Norwegian	Entolimod	Behandling av akutt strålesyndrom
Icelandic	Entólímód	Meðferð bráðrar geislunar heilkenni

¹ At the time of designation