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# Public summary of opinion on orphan designation

## Allogeneic cultured postnatal thymus-derived tissue for the treatment of CHARGE syndrome

On 26 February 2019, orphan designation (EU/3/19/2136) was granted by the European Commission to Enzyvant Therapeutics Ireland Limited, Ireland, for allogeneic cultured postnatal thymus-derived tissue (also known as RVT-802) for the treatment of CHARGE syndrome.

### What is CHARGE syndrome?

CHARGE syndrome is a genetic disorder often caused by mutations (changes) in the genes for a protein called CHD7 that is needed for normal development of an unborn child.

Patients with CHARGE syndrome may have an eye defect called coloboma, where part of the eye did not develop properly in the womb. Other problems include delayed growth and abnormalities affecting many parts of the body including the heart, the back of the nose, genitals, brain, limbs, spine and ears. Some patients with CHARGE syndrome have very low levels of, or completely lack, T cells (a type of white blood cell that fights infections) and are therefore prone to infections.

CHARGE syndrome is a long-term debilitating and life-threatening condition due to heart defects, brain and breathing problems and infections.

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

At the time of designation, CHARGE syndrome affected approximately 0.9 in 10,000 people in the European Union (EU). This was equivalent to a total of fewer than 47,000 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?

At the time of application for orphan designation, there was no satisfactory treatment for CHARGE syndrome authorised in the EU. Within the first few years of life, many patients with CHARGE

*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 518,400,000 (Eurostat 2019).

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syndrome undergo surgeries to correct physical abnormalities. Other interventions to correct swallowing and respiratory problems, sleep apnoea, hearing and vision problems were often used.

## How is this medicine expected to work?

The medicine is intended to treat patients with CHARGE syndrome who have a non-functional thymus gland and thus have very low levels of, or completely lack, T cells. The medicine comprises slices of tissue from a donor's thymus gland. The thymus gland is a gland below the breastbone that helps the T cells to develop properly. The donor tissue is processed in a laboratory so that it is compatible with the patient's body and is then inserted into the patient's body by surgery. This is expected to help patients produce T cells and fight infections.

## 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 CHARGE syndrome who have a non-functional thymus gland were ongoing.

At the time of submission, the medicine was not authorised anywhere in the EU for CHARGE syndrome or designated as an orphan medicinal product elsewhere for this condition.

In accordance with Regulation (EC) No 141/2000 of 16 December 1999, the COMP adopted a positive opinion on 24 January 2019 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 the EMA website.

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 | Allogeneic cultured postnatal thymus-derived tissue | Treatment of CHARGE syndrome |
| Bulgarian | Алогеннна култивирана постнатална тимусна тъкан | Лечение на CHARGE |
| Croatian | Alogeni proizvod dobiven iz kulture postnatalnog tkiva timusa | Liječenje sindroma CHARGE |
| Czech | Alogenní kultivovaná postnatální tkáň thymu | Léčba syndromu CHARGE |
| Danish | Allogent dyrket postnatalt præparat deriveret fra thymusvæv | Behandling af syndromet CHARGE syndrom |
| Dutch | Weefsel verkregen uit allogeen, gekweekt, postnatale thymus | Behandeling van CHARGE-syndroom |
| Estonian | Allogeenne kultiveeritud postnataalse tüümuse kude | CHARGE sündroomi ravi |
| Finnish | Allogeenisesta, viljellystä syntymänjälkeisestä kateenkorvakudoksesta peräisin oleva valmiste | CHARGE-oireyhtymän hoito |
| French | Produit dérivé de culture de tissu de thymus postnatal allogénique | Traitement du syndrome CHARGE |
| German | Allogenes Kulturprodukt kultiviert aus postnatalem Thymusgewebe | Behandlung des CHARGE-Syndroms |
| Greek | Αλλογενής καλλιεργημένος ιστός από μεταγεννητικό ιστό θύμου | Θεραπεία του συνδρόμου CHARGE |
| Hungarian | Allogén, tenyésztett, postnatalis csecsemőmirigyből származó szövet | A CHARGE-szindróma kezelésére |
| Italian | Prodotto derivato dal tessuto timico postnatale coltivato allogenico | Trattamento della sindrome CHARGE |
| Latvian | Alogēni, kultivēti, postnatāli no aizkrūtes dziedzera iegūti audi | CHARGE sindroma ārstēšana |
| Lithuanian | Alogeninis postnataliai iš užkrūčio liaukos išskirtas dirbtinai išaugintas audinys | CHARGE sindromo gydymas |
| Maltese | Tessut derivat mit-timus alloġeniku kkultivat, postnatali | Kura tas-sindrome CHARGE |
| Polish | Allogeniczna kultywowana tkanka poporodowej grasicy | Zespół CHARGE |
| Portuguese | Derivado da cultura de tecido tímico pós-natal alogénico | Tratamento da síndrome CHARGE |

[1] At the time of designation

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|---|---|---|
| Romanian | Produs derivat din cultură de țesut timic postnatal alogenic | Tratamentul sindromului CHARGE |
| Slovak | Alogénny liek kultivovaný v tkanivách postnatálneho týmusu | Liečba syndrómu CHARGE |
| Slovenian | Alogena kultura iz tkiva poporodnega priželjca | Zdravljenje sindroma CHARGE |
| Spanish | Producto alogénico derivado tisular de timo postnatal cultivado | Síndrome CHARGE |
| Swedish | Odlad allogen postnatal tymusvävnad | Behandling av CHARGE-syndrom |
| Norwegian | Allogent vev fra thymus dyrket postnatalt | Behandling av CHARGE syndrom |
| Icelandic | Ósamgena ræktaður vefur afleiddur úr hóstarkirtli eftir fæðingu | Meðferð við CHARGE heilkenni |