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Public summary of opinion on orphan designation

Autologous human adipose perivascular stromal cells genetically modified to secrete soluble tumour necrosis factor-related apoptosis-inducing ligand for the treatment of pancreatic cancer

On 19 November 2018, orphan designation (EU/3/18/2085) was granted by the European Commission to Rigenerand S.r.l., Italy, for autologous human adipose perivascular stromal cells genetically modified to secrete soluble tumour necrosis factor-related apoptosis-inducing ligand (also known as RR001) for the treatment of pancreatic cancer.

What is pancreatic cancer?

Pancreatic cancer is cancer of the pancreas, an organ that lies behind the stomach. The pancreas has two functions: to produce a fluid that helps with the digestion of food, and to produce hormones such as insulin. Due to the absence of symptoms in the early stages of pancreatic cancer, the majority of patients are diagnosed when the cancer has spread nearby or to other parts of the body.

Pancreatic cancer is a debilitating and life-threatening disease that is associated with shortened life expectancy.

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

At the time of designation, pancreatic cancer affected approximately 2.4 in 10,000 people in the European Union (EU). This was equivalent to a total of around 124,000 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 designation, several medicines were authorised in the EU for treating pancreatic cancer. Treatments included surgery, radiotherapy (treatment with radiation) and chemotherapy (medicines to treat cancer).

[*]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 517,400,000 (Eurostat 2018).

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The sponsor has provided sufficient information to show that the medicine might be of significant benefit for patients with pancreatic cancer because laboratory studies showed that it slows down the growth of tumours. When given in combination with other cancer medicines it led to better outcomes than when these other medicines were used alone.

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?

The medicine is made of cells that have been modified to produce TRAIL, a protein in the body that triggers cancer cell death. When the medicine is injected into the patient's cancer, the cells in the medicine will produce the TRAIL protein, which will attach to receptors (targets) on the surface of cancer cells and trigger their death.

What is the stage of development of this medicine?

At the time of submission of the application for orphan designation, the evaluation of the effects of the medicine in experimental models was ongoing.

At the time of submission of the application for orphan designation, no clinical trials with the medicine in patients with pancreatic cancer had been started.

At the time of submission, the medicine was not authorised anywhere in the EU for pancreatic cancer. Orphan designation had been granted in the United States for this condition.

In accordance with Regulation (EC) No 141/2000 of 16 December 1999, the COMP adopted a positive opinion on 11 October 2018 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	Autologous human adipose perivascular stromal cells genetically modified to secrete soluble tumour necrosis factor-related apoptosis-inducing ligand	Treatment of pancreatic cancer
Bulgarian	Автоложни човешки периваскуларни стромални клетки от мастна тъкан, генетично модифицирани да секретират разтворим, апоптоза-индуциращ лиганд от семейството на тумор некротизиращия фактор	Лечение на рак на панкреаса
Croatian	Autologne humane adipozne perivaskularne stanice strome genetički modificirane da luče topljivi ligand koji inducira apoptozu povezanu s faktorom nekroze tumora	Liječenje raka gušterače
Czech	Autologní lidské adiposní perivaskulární stromální buňky geneticky modifikované k sekreci indukčního ligandu spojeného s apoptózou solubilního tumor nekrotizujícho faktoru	Léčba karcinomu pankreatu
Danish	Autolog human adipøs perivaskulær stromal celler genetisk modificerede til at udskille opløselig tumor necrosis factor-relaterede apoptosis-inducerende ligand	Behandling af pancreascancer
Dutch	Autologe humane adipose perivasculaire stromale cellen gemodifieerd om oplosbaar tumor necrosis factor –gerelateerd apoptosis inducerend ligand te secreteren	Behandeling van pancreaskanker
Estonian	Lahustuvat tuumornekroosifaktoriga seotud apoptoosi indutseerivat ligandi (TRAIL) sekreteerivad geenmuundatud autoloogsed inimese rasvkoe perivaskulaarsed stroomarakud	Pankreasevähi ravi
Finnish	Autologiset ihmisen rasvakudoksen perivaskulaariset stromaaliset solut, jotka on geneettisesti muokattu tuottamaan tuumorinekroositekijään liittyvää, apoptoosia aiheuttavan ligandia	Haimasyövän hoito
French	Cellules stromales adipeuses périvasculaires humaines autologues génétiquement modifiées pour sécréter un ligand soluble lié au facteur de nécrose tumorale induisant l'apoptose	Traitement du cancer pancréatique
German	Autologe humane adipöse perivaskuläre Stroma-Zellen, genetisch-modifiziert zur Sekretion von gelöstem Tumour-Necrosis-Factor-Related-Apoptosis-Inducing-Ligand	Behandlung des Pankreaskarzinoms

[1] At the time of designation

Language	Active ingredient	Indication
Greek	Αυτόλογα ανθρώπινα στρωματικά λιπώδη περιαγγειακά στρωματικά κύτταρα, γενετικά τροποποιημένα να εκκρίνουν ένα διαλυτό πρόσδεμα παράγοντα νέκρωσης των όγκων	Θεραπεία καρκίνου του παγκρέατος
Hungarian	Oldódó tumor nekrózis faktorhoz kapcsolódó apoptózis-indukáló ligandot szekretáló genetikailag módosított autológ humán adipózus perivaszkuláris sztróma sejtek	Hasnyálmirigyrák kezelése
Italian	Cellule umane adipose autologhe prevascolari stromali geneticamente modificate a secernere il ligando solubile legato al fattore di necrosis tumorale che induce l'apoptosi	Trattamento del cancro pancreatico
Latvian	Ģenētiski modificētas autologas cilvēka tauku perivaskulāras stromas šūnas, lai izdalītu šķīstošu, ar audzēja nekrozes faktoru saistītu, apoptozi izraisošu ligandu	Aizkuņģa dziedzera vēža ārstēšana
Lithuanian	Autologinės žmogaus riebalinės perivaskulinės stromos ląstelės, genetiškai modifikuotos išskirti tirpų auglio nekrozės faktorių-giminingą apoptozei-indukuojantį ligandą	Kasos vėžio gydymas
Maltese	Ċelloli stromali perivasculari adipożi awtologi umani ġenetikament modifikati biex inixxu ligand li jinħall fit-tumur biex jinduċi l-apoptożi relatat mal-fattur tan-nekroży	Kura tal-kanċer tal-frixa
Polish	Autologiczne ludzkie komórki okołonaczyniowej tkanki łącznej tłuszczowej geentycznie modyfikowane tak, aby wydzielać rozpuszczalne białko TRAIL (tumour necrosis factor-related apoptosis-inducing ligand)	Leczenie raka trzustki
Portuguese	Células estromais perivasculares adiposas autólogas humanas geneticamente modificadas para secretar o ligando indutor de apoptose relacionado com o fator de necrose tumoral solúvel	Tratamento do carcinoma do pâncreas
Romanian	Celule stromale adipoase perivasculare umane autologe modificate genetic pentru a secreta un ligand înrudit cu factorul solubil de necroză tumorală ce induce apoptoza	Tratamentul cancerului pancreatic
Slovak	Autológne ľudské adipózne perivaskulárne stromálne bunky geneticky modifikované na vylučovanie ligandu indukujúceho apoptózu príbuzného solubilnému faktoru nekrotizujúceho tumor	Liečba rakoviny pankreasu
Slovenian	Avtologne človeške maščobne perivaskularne stromalne celice, genetsko modificirane za izločanje topnega, tumor nekrotizirajočega-z apoptozo poveznega-inducirajočega liganda	Zdravljenje raka trebušne slinavke

Language	Active ingredient	Indication
Spanish	Celulas estromales adiposas perivasculares humanos autologos geneticamente modificadas para secretar un ligand soluble liado al factor de necrosis tumoral provocando la apoptosis	Tratamiento del cáncer de páncreas
Swedish	Autologa humana adiposa perivaskulära stomalceller genetiskt modifierade att utsöndra löslig tumörnekrosfaktorrelaterad apoptosinducerad ligand	Behandling av pankreascancer
Norwegian	Autologe perivaskulære humane stromale celler fra fettvev, genetisk modifisert til å skille ut løselig tumornekrosefaktor-relatert apoptoseinduserende ligand	Behandling av pankreascancer
Icelandic	Samgena utanæða manna-grunnfitufrumur erfðabreyttar til að seyta leysanlegum bindli sem hvetur til stýrðs frumudráps (apoptosis) líkt og TNF (tumour necrosis factor)	Meðferð briskrabbameins