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Committee for Orphan Medicinal Products

Public summary of opinion on orphan designation

H-Arg-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH, acetate salt & H-Tyr-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH, acetate salt for the treatment of TERT positive non-small cell lung cancer in HLA-A2 positive patients

On 18 December 2007, orphan designation (EU/3/07/521) was granted by the European Commission to Vaxon Biotech, France, for H-Arg-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH, acetate salt & H-Tyr-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH, acetate salt for the treatment of TERT positive non-small cell lung cancer in HLA-A2 positive patients.

What is TERT positive non-small cell lung cancer in HLA-A2 positive patients?

Non-small cell lung cancer originates in the lung and is the most common form of lung cancer, accounting for about 80% of all lung cancer cases. The disease is characterised by a tumour in the lungs which often spreads into surrounding tissues and other parts of the body causing organ failure. Non-small cell lung cancer is a very serious disease, and it is chronically debilitating and life-threatening.

TERT (telomerase reverse transcriptase) is an enzyme (a protein that speeds up the conversion of certain substances into other substances) that is often present in non-small cell lung cancer tumour cells. These cells are then called TERT positive cells. TERT is needed for tumour cells to be able to divide many times, and subsequently for the tumour to grow.

On the outer membrane of cells in the body there is a protein called major histocompatibility complex that displays parts of other proteins that are present inside the cell. This is a way for the cell to communicate what is going on inside it to the rest of the body. The major histocompatibility complex is very variable between individuals: there can be great differences in its structure from person to person. One of the variants of the major histocompatibility complex that is common in Europe is called HLA-A2.

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

At the time of designation, TERT positive non-small cell lung cancer in HLA-A2 positive patients affected less than 4 in 10,000 people in the European Union (EU)*. This is equivalent to a total of fewer than 200,000 people, and is below the 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?

The treatment of non-small cell lung cancer depends on how advanced the disease is. If the cancer is discovered at an early stage, before it has spread outside the lungs, it can sometimes be removed surgically. Other ways of treating non-small cell lung cancer is by chemotherapy (using drugs to kill cancer cells) or by radiotherapy (using high energy rays to kill cancer cells). There were several medicinal products authorised for the treatment of non-small cell lung cancer at the time of application.

Satisfactory argumentation has been submitted by the sponsor to justify the assumption that H-Arg-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH, acetate salt & H-Tyr-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH, acetate salt might be of potential significant benefit for the treatment of TERT positive non-small cell lung cancer in HLA-A2 positive patients, mainly because it has a new mechanism of action, could potentially provide a safer option to current treatments and may potentially work in patients where other methods of treatment are unsuccessful. These assumptions will have to be confirmed at the time of marketing authorisation. This will be necessary to maintain the orphan status.

How is this medicine expected to work?

H-Arg-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH, acetate salt & H-Tyr-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH, acetate salt are two peptides (short fragments of proteins) that are similar to a distinct part of TERT. The product is designed to work as a vaccine (to activate the body's natural defence system, the immune system, against a specific disease or foreign compound) against TERT. According to the sponsor the product will trigger the immune system against the non-small cell cancer tumour cells that display TERT fragment on their surface in the major histocompatibility complex variant HLA-A2, thus destroying the tumour cells with the body's own defence system.

What is the stage of development of this medicine?

The effects of H-Arg-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH, acetate salt & H-Tyr-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH, acetate salt were evaluated in experimental models.

At the time of submission of the application for orphan designation, clinical trials in patients with TERT positive non-small cell lung cancer in HLA-A2 positive patients were ongoing.

H-Arg-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH, acetate salt & H-Tyr-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH, acetate salt was not authorised anywhere worldwide for the treatment of TERT positive non-small cell lung cancer in HLA-A2 positive patients nor designated as orphan medicinal product elsewhere for this condition, at the time of submission.

*Disclaimer: For the purpose of the designation, the number of patients affected by the condition is estimated and assessed based on data from the European Union (EU 27), Norway, Iceland and Lichtenstein. This represents a population of 498,000,000 (Eurostat 2006). This estimate is based on available information and calculations presented by the sponsor at the time of the application.

According to Regulation (EC) No 141/2000 of 16 December 1999, the Committee for Orphan Medicinal Products (COMP) adopted on 8 November 2007 a positive opinion recommending the grant of the above-mentioned 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 European Union) 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

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Translations of the active ingredient and indication in all official EU languages¹, Norwegian and Icelandic

Language	Active Ingredient	Indication
English	H-Arg-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH, acetate salt & H-Tyr-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH, acetate salt	Treatment of TERT positive non-small cell lung cancer in HLA-A2 positive patients
Bulgarian	H-Arg-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH, ацетатна сол & H-Tyr-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH, ацетатна сол	Лечение на TERT положителен не-дребноклетъчен белодробен карцином при HLA-A2 положителни пациенти
Czech	H-Arg-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH, sůl acetátu & H-Tyr-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH, sůl acetátu	Léčba TERT pozitivního nemalobuněčného karcinomu plic u HLA-A2 nemocných
Danish	H-Arg-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH, acetat salt & H-Tyr-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH, acetat salt	Behandling af TERT-positiv ikke-småcellet lungecancer i HLA-A2 positive patienter
Dutch	H-Arg-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH, acetaat & H-Tyr-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH, acetaat	Behandeling van TERT positieve niet-kleincellig longcarcinoma in HLA-A2 positieve patiënten
Estonian	H-Arg-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH-atsetaatsool & H-Tyr-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH- atsetaatsool	TERT-positiivse mitte-väikerakulise kopsuvähi ravi HLA-A2 positiivsetel patsientidel
Finnish	H-Arg-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH, asetaattisuola & H-Tyr-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH, asetaattisuola	TERT-positiivisen ei-pienisoluisen keuhkosyövän hoito HLA-A2 positiivisilla potilailla
French	Sel d'acétate de H-Arg-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val- & sel d'acétate de H-Tyr-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH	Traitement du cancer bronchique non à petites cellules exprimant TERT pour les patients HLA-A2 positifs
German	H-Arg-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH, Acetat & H-Tyr-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH, Acetat	Behandlung des TERT-positiven, nicht-kleinzelligen Bronchialkarzinoms bei HLA A2-positiven Patienten
Greek	H-Arg-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH οξικό άλας & H-Tyr-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH οξικό άλας	Θεραπεία ασθενών, HLA-A2 θετικών, με μη-μικροκυτταρικό TERT θετικό καρκίνο του πνεύμονα.
Hungarian	H-Arg-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH, acetát & H-Tyr-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH, acetate	TERT pozitív, nem-kissejtes tüdőrákban szenvedő HLA-A2 pozitív betegek kezelése

¹ At the time of designation

Language	Active Ingredient	Indication
Italian	H-Arg-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH acetato & H-Tyr-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH acetato	Trattamento del carcinoma polmonare non a piccole cellule (limitatamente ai pazienti HLA-A2 positivi e nei quali il tumore esprime TERT)
Latvian	H-Arg-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH, acetāta sāls un H-Tyr-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH, acetāta sāls	<i>TERT</i> pozitīva nesīkšūnu plaušu vēža ārstēšana HLA-A2 pozitīviem pacientiem
Lithuanian	H-Arg-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH, acetato druska ir H-Tyr-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH, acetato druska	Nesmulkiąstelinio TERT teigiamo plaučių vėžio gydymas, ŽLA-A2 teigiamiems pacientams
Maltese	H-Arg-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH, acetate salt & H-Tyr-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH, acetate salt	Kura tal-kanċer tal-pulmun mingħajr ċelloli żgħar f'pazjenti li huma HLA-A2 pożittivi u li fihom it-tumur jesprimi t-TERT
Polish	H-Arg-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH, acetate salt & H-Tyr-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH, acetate salt	Leczenie drobnokomórkowego raka płuc TERT pozytywnego u chorych HLA-A2 dodatnich
Portuguese	Acetato de H-Arg-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH, e acetato de H-Tyr-Leu-Phe-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH.	Tratamento do carcinoma do pulmão de não pequenas células em doentes HLA-A2 positivos em que o tumor exprime TERT
Romanian	Acetat de H-Arg-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH, acetat de H-Tyr-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH	Tratamentul cancerului pulmonar cu celule non-mici TERT pozitiv, la pacienții HLA-A2 pozitivi
Slovak	H-Arg-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH, acetátová soľ & H-Tyr-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH, acetátová soľ	Liečba TERT pozitívneho nemalobunkového pľúcneho karcinómu u HLA-A2 pozitívnych pacientov
Slovenian	H-Arg-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH, acetate salt & H-Tyr-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH, acetate salt	Zdravljenje TERT pozitivnega ne-drobnoceličnega pljučnega raka pri HLA-A2 pozitivnih bolnikih
Spanish	H-Arg-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH, sal de acetato y H-Tyr-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH, sal de acetato	Tratamiento del cáncer de pulmón de células no pequeñas en pacientes HLA-A2 positivos en los que el tumor expresa TERT
Swedish	H-Arg-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH, acetat salt & H-Tyr-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH, acetat salt	Behandling av TERT positiv icke-små cell lung cancer hos HLA-A2 positiva patienter
Norwegian	H-Arg-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH, acetat salt & H-Tyr-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH, acetat salt	Behandling av TERT positivt ikke-småcellet lungkarsinom hos HLA-A2 positive pasienter
Icelandic	H-Arg-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH, acetat salt & H-Tyr-Leu-Phe-Phe-Tyr-Arg-Lys-Ser-Val-OH, acetat salt	Meðferð á TERT jákvæðu lungnakrabbameini sem er ekki af smáfrumugerð hjá HLA-A2 jákvæðum einstaklingum