Medesis Pharma wishes to accelerate the development of its antinuclear products and provides an update on its strategy

Montpellier (France), April, 5, 2022 - 8:45am – Medesis Pharma (ISIN: FR0010844464, Ticker: ALMDP), a pharmaceutical biotechnology company developing drug candidates with its proprietary buccal active ingredient delivery technology, Aonys®, publishes an information note on the three future drugs in development for the protection of large populations contaminated after a civil or military nuclear accident.

Three drugs are specifically intended for the treatment of large populations contaminated or irradiated after a civil or military nuclear accident. To date, there is no suitable treatment for a serious nuclear accident. The three products are at the heart of the issues with the tragic international situation in Ukraine, raising the possibility of nuclear war. They are also topical with the recent decisions to maintain the development of nuclear power plants.

Medesis Pharma's three drug candidates were developed in collaboration with the French Atomic Energy Commission (LRT-CEA), which carried out all the studies on animals contaminated by radionuclides, and with the Armed Forces Biomedical Research Institute (IRBA) for studies on irradiated animals. Each of these products is protected by an international patent registered or in the process of being registered in most nuclear countries in the world.

The therapeutic activity has been demonstrated, and a complementary program is necessary with pharmaceutical development for industrial production and a tolerance study on healthy volunteers to demonstrate safety before introducing the products into State emergency stocks.

Funding requests for these 3 programs have been submitted by Medesis Pharma to the French Defense Innovation Agency.

NU01: NanoCaDTPA: Plutonium decorporation

For more than 40 years, CaDTPA has been used by repeated slow IV infusion over several weeks. However, this treatment carried out in a medical environment is suitable for a few contaminated people (workers in Nuclear Power Plants), but impossible to implement when several hundred thousand people are contaminated.
NanoCaDTPA (formulation of CaDTPA in the Aonys microemulsion) makes it possible to obtain the same efficiency of extraction of Plutonium, but with simple administration in the mouth, from a bottle stored at room temperature.

NU02: NanoPB (Prussian Blue): Cesium decorporation

Prussian Blue has been used for many years for the extraction of Cesium. It is administered in large capsules of 500 mg, 18 capsules per day for 2 to 3 months. Impossible to dissolve, it is almost impossible to give to children and adolescents and is accompanied by obstinate constipation resulting in irradiation of the small pelvis. However, Cesium is fixed preferentially in the muscles and in particular in the heart muscle causing abnormalities and cardiac pathologies in children and adolescents.
The NanoPB consists of Prussian Blue nanoparticles synthesized and stabilized in the Aonys microemulsion. It allows to obtain a decorporation of cesium 3 times faster with 100 times less Prussian Blue. It is drinkable and suitable for administration at any age, including infants and children.

NP02: NanoManganese

The active ingredient is manganese sulphate in the Aonys microemulsion. This product prevents and treats the storm of inflammatory cytokines triggered by irradiation that causes major respiratory and digestive inflammation

responsible for death. Efficacy is observed if treatment is started within hours of irradiation. It is administered by mouth and stored in bottles at room temperature.
This product is currently in a Phase II clinical study in Brazil to treat severe forms of COVID-19 which are also linked to an inflammatory cytokine storm.

General information about a nuclear explosion

- During an explosion, a nuclear weapon first generates a ball of fire, the size of which varies with the power. A 1 kiloton bomb would thus generate a ball 60 meters in diameter causing damage up to 2 kilometers around the point of impact. A 1,000-kiloton bomb would generate a fireball of more than 1 kilometer, the impact of which could have a radius of up to 20 kilometers.
- Blast effect: the explosion causes a shock wave with a displacement of an air mass capable of destroying all surrounding objects. The vacuum created by the moving air then drives strong winds, similar to a cyclone or tornado;
- Heat: light radiation and its heat, which represent more than a third of the energy of the bomb, cause fires and burns on people;
- Radiation: the bomb generates direct radiation at the moment of its explosion;
- Radioactive pollution that can be carried by the winds over great distances by radionuclides which are absorbed by the respiratory and digestive tracts, settle in the tissues, in particular the lungs, liver, bones and heart, and will never again be eliminated and will cause cancer 10 to 15 years later.

Product development Plan

For each of the two decorporation products of Plutonium and Cesium:

· Pharmaceutical CMC development with preparation for industrial production,
· Tolerance study on 50 healthy volunteers treated for one month.

For the radiation protection product already in clinical development:

· Industrial development,
· Tolerance study on 50 healthy volunteers for one month.

Deadlines for product registration and industrial manufacturing:

· 18 months for the two decorporation products
· 12 months for the radiation protection product

In practice, these deadlines can be shortened or extended depending on whether or not the Medicines Agency and the public authorities consider it urgent.

NOTE D'INFORMATION

À propos de Medesis Pharma

Pour avancer dans le traitement des maladies graves dépourvues de traitement efficace, Medesis Pharma conçoit des candidats médicaments en s'appuyant sur sa technologie propriétaire Aonys® d'administration de principes actifs sous forme de nano-gouttelettes par voie buccale qui rend efficace le delivery des principes actifs dans toutes les cellules, avec un passage de la Barrière Hémato Encéphalique
Cette approche innovante est appliquée à de futurs médicaments pour traiter des maladies majeures dépourvues de traitements efficaces : la Maladie d'Alzheimer, la Maladie de Huntington, certains cancers résistants et les inflammations respiratoires sévères comme celles liées à la COVID-19. Medesis Pharma développe également des traitements dédiés aux populations irradiées après un accident nucléaire civil ou militaire.
Société biopharmaceutique française implantée près de Montpellier, Medesis Pharma est à l'origine de 15 publications scientifiques, détient 11 brevets internationaux, fruits de 17 années de recherche et se consacre plus particulièrement aujourd'hui à 4 projets qui rentrent en Phase II clinique dans le domaine des maladies neurodégénératives et du traitement de la Covid-19. Reconnue mondialement, Medesis Pharma travaille par ailleurs sur de nouvelles applications de sa technologie en partenariat avec des laboratoires de recherche publics (CNRS, CEA, IRBA), des centres hospitaliers universitaires majeurs en France, au Canada et aux États-Unis ainsi que des acteurs privés, comme Transgene.
Les actions de Medesis Pharma sont cotées sur Euronext Growth Paris. FR0010844464 – ALMDP

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