



PRESS RELEASE

Swiss biotech starts breakthrough anti-cancer clinical trial based on active immunotherapy

- **Novel high-tech anti-cancer vaccination therapy boosts the patient's own immune response**

Geneva, Switzerland – 13 November, 2014 – MaxiVAX SA, a private Swiss biotech company, is conducting a ground-breaking clinical phase 1 trial at the Geneva University Hospitals with its proprietary cancer vaccination MVX-ONCO-1 in 15 patients suffering from various cancers at an advanced stage.

The innovative Immuno-Oncology therapeutic protocol and product of MaxiVAX is based on boosting the patient's own immune response against his/her cancer cells. The first component is a vaccine aiming at an immune protection against existing cancer and metastases. A key benefit of the MaxiVAX vaccine is that it enables the patient to build up a simultaneous immune response across multiple antigens, and thereby increases the likelihood of success. The second component is an immune-boosting agent which is provided via genetically re-programmed cells that secrete the agent in a sustained manner at the site of vaccination. These cells are themselves immuno-protected by a small hollow-fibre capsule, implanted under the skin. This innovative technology of protein delivery by encapsulated cells was pioneered by Prof. P. Aebischer, President of EPFL in Lausanne, who has been an advisor to MaxiVAX since its foundation.

Prof. Bernard Mach, co-founder and chairman of MaxiVAX, comments: "We are very excited by this important clinical trial with a high-tech therapy that has the potential to dramatically improve the survival rates of patients suffering from advanced cancers. Our unique approach is to use the patient's entire cancer cell as a vaccination antigen, combined with a potent immune boosting agent delivered continuously by a small capsule under the skin. This reprograms and boosts the patient's own immune system to fight cancer."

The phase 1 trial in Geneva is due for completion in the middle of 2015. Assuming a successful outcome, the company plans to conduct multi-centre clinical phase IIa trials in Europe in 2015-2017. The goal is to establish the cancer-specific treatment efficacy and safety of MVX-ONCO-1 in larger lung, ovarian and pancreatic cancer patient populations. The company is conducting a new financing round with existing and new private investors to support these clinical programs.

Encouraging data

This first phase I clinical trial of MVX-ONCO-1 is currently underway at the Geneva University Hospitals, under the auspices of SwissMedic. The therapeutic products are manufactured at the Centre of Cell Therapy, whereas patients are treated at the onco-haematology clinical research unit of the Dr. Henri Dubois-Ferriere Dinu Lipatti Foundation, at the Oncology Centre of the HUG. This clinical trial will evaluate the vaccine candidate's safety and feasibility. Four patients out of a scheduled 15 patients, all with advanced stage tumors, have

now received treatment with promising initial results. The feasibility of the treatment has been validated and all quality/safety endpoints have been met so far. No local or systemic side effects were detected in relation to the anti-tumor immunizations.

The decision to undertake this ground-breaking clinical trial in patients was based on extensive pre-clinical data by MaxiVAX which demonstrated the efficacy of this novel vaccination procedure in protecting mice against several types of cancers, leading to cure rates of over 80% compared to 100% mortality in untreated subjects. It is this remarkable efficacy that has motivated MaxiVAX to move into clinical development.

About MVX-ONCO-1

MaxiVAX' novel Immuno-Oncology therapy is based on triggering the patient's own natural immune response mechanism via an innovative and proprietary technology in order to eliminate the cancer cells. MVX-ONCO-1 has been classified as an Advanced Therapeutic Medicinal Product by the European Medicines Agency.

MVX-ONCO-1 consists of a two-component system:

1) Vaccine: administered by sub-cutaneous injection, this uses the patient's own irradiated cancer cells as vaccine antigens, with a key benefit of using the entire set of tumor antigens from the patient's cell

2) Immune boosting agent: an immune boosting agent (GM-CSF: granulocyte-macrophage colony stimulating factor) is continuously delivered via encapsulated cells. The capsule, a small hollow fibre, is placed underneath the skin at the same site as the vaccine injection.

The vaccine and the immune-booster are both being administered 6 times over a period of 8 weeks in this first clinical trial.

About Cancer Immunotherapy

Despite recent new cancer treatments, a majority of cancer patients with advanced or metastatic cancer still die from their disease within 5 years. Many tumors such as lung cancer, ovarian cancer, pancreatic cancer and head and neck cancers are often detected at a very advanced stage, adding a further challenge for an effective treatment.

Tumor cells that arise as a result of the onset of cancer are more or less tolerated by the patient's own immune system. This is due to the fact that the tumor cells are essentially the patient's own cells that are growing, dividing and spreading without control.

The first generation immunotherapies (passive) are monoclonal antibodies that target one characterized component, such as a single antigen on the cancer cell membrane, and so hopefully destroy the cancer cell.

A promising second-generation approach being explored, is active cancer immunotherapy which aims at training the patient's own immune system to recognize parts of its own tumor cells as targets to be destroyed. As opposed to other anti-cancer therapies, this vaccination approach helps the patient to heal him or herself in a more natural and long-lasting way. MaxiVAX belongs to the very few active players in this field.

The ultimate "immunogen" for an effective anti-cancer vaccination remains the entire cancer cell itself, which comprises the entire set of tumor antigens. Such a vaccine enables the patient to build up a simultaneous immune response across multiple antigens, and thereby increases the likelihood of success. This is one of the key benefits of MaxiVAX' novel immunotherapy approach.

About MaxiVAX www.maxivax.ch

MaxiVAX is a Geneva-based biotech company developing the first active immunotherapy based on encapsulated cells for treating cancers. The field of Immuno-Oncology has recently seen successes of first generation cancer immunotherapies which are paving the way for MaxiVAX' novel and competitive approach. The company's mission is to develop alternative solutions to established cancer therapies that are more effective, personalized, and enable the patient to fight his/her own disease.

The company is led by an experienced Board under the chairmanship of Prof. Bernard Mach, with a team of experts in clinical drug development and regulatory affairs. The Scientific & Clinical Advisory Group includes Prof. Patrick Aebischer, President of Ecole Polytechnique Federale Lausanne (EPFL), who pioneered the field of Encapsulation Cell Technology which is being applied by MaxiVAX and who has been an advisor to the company since its foundation.

The company commenced pre-clinical operations in 2009 and is financed by private investors together with grants from public and private institutions.

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