VISION

The consortium has the ambitious vision to establish a new European network of talented researchers that will not break apart after the end of this project, but will carry the spirit further to initiate meaningful long-term collaborations, which, in turn, will advance the concept of nanovaccination to treat pancreatic cancer in the future.





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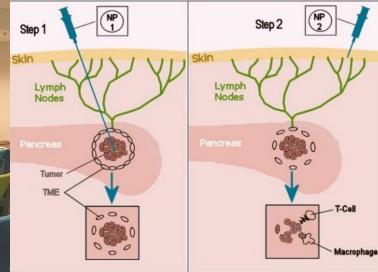
A Nanovaccine Approach for Treatment of Pancreatic Cancer

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OUR MISSION

Pancreatic ductal adenocarcinoma (PDAC) is the 4th leading cause of cancer deaths in men and women and still fatal in over 90% of patients. It is characterised by its extremely aggressive nature where it is also responsible for the highest mortality rate compared to other major cancers, resulting in excess of 250,000 deaths worldwide per annum. Current state-of-art therapies for advanced PDAC including chemo- and/or radiotherapy, despite extensive efforts, have met with only limited success. Surgery is only applicable for those with early stages of the disease, or to relieve symptoms, if the cancer is blocking the bile duct or the bowel. There are two major reasons for the resistance of PDAC to conventional therapy. Firstly, PDAC has a very defining hallmark, where an abundance of stromal content is present in the tumour microenvironment to form a physical and biochemical barrier. Secondly, during progression of the disease, the body's immune system is hijacked to support the proliferation of the cancer. New approaches, such as immunotherapy, are therefore needed where it has already shown promise in overcoming many aspects of this resistance. Immunotherapy has the potential to treat minimal residual disease after pancreatic resection (surgery) as well as for metastatic and non-resectable PDAC. Our objective for this project is to bring together a multidisciplinary and intersectoral group to develop novel vaccine approaches, including use of multiple immunomodulating components.





CONSORTIUM

- 1. PERCUROS B.V.
- 2. LEIDEN UNIVERSITY MEDICAL CENTRE
- 3. TECHNICAL UNIVERSITY OF DELFT
- 4. MAX-PLANK INSTITUTE OF EXPERIMENTAL MEDICINE
- 5. UNIVERSITY OF BIRMINGHAM
- 6. GOOD BIOSCIENCE MARKERS B.V.
- 7. ERASMUM MEDICAL CENTRE ROTTERDAM
- 8. TECHNICAL UNIVERSITY MUNICH
- 9. REGENSBURG CENTRE FOR INTERVENTIONAL IMMUNOLOGY
- 10. INSTITUTE NATIONAL DE LA SANTE ET DE LA RECHERCHE MEDICALE
- 11. UNIVERSITY OF BARCELONA
- 12. STATENS SERUM INSTITUTE OF COPENHAGEN
- 13. POLYPURE A.S.

Partners:

UNIVERSITY FEDERICO II OF NAPLES
INNOEXC GMBH
PROGREDUM GMBH
TECO BIOSCIENCES GMBH
HAMMERSMITH MEDICINES RESEARCH

The aims of PAVE are

- to achieve long-term immune suppression of PDAC, using multicomponent nanovaccines;
- to produce adequate preclinical models and assays, which will be more relevant for testing these new immunological approaches; and
- to track vaccine biodistribution in vivo by incorporation of imaging contrast agents within biodegradable particles.

The basic concept is to establish new strategies and approaches for cancer vaccines as a primary objective, in conjunction with modulation of the tumour microenvironment (TME), in the treatment of pancreatic ductal adenocarcinoma (PDAC). In the PAVE project, we will use a new generation of nanoparticle (NP)-based vaccines for long-term immunity. In tandem, one of our study goals will be to also improve the availability of relevant experimental animal models that are replicative of the human immune system, where currently new cancer immunotherapies need to be evaluated.