

Stockholm 2022-05-05

New publication strengthens Neogap's patented technology showing that it also can be used for proliferation of T cells from blood



Dr Stina L. Wickström, KI, and Hans Grönlund, CSO and co-founder of Neogap Therapeutics.

NEOGAP Therapeutics, which develops individualised immunotherapy for cancer treatment, presents in a publication with researchers at Karolinska Institutet preclinical data that further proves the capability of the company's proprietary technology EpiTCer® to produce tumour-specific T cells. The evaluations were performed with blood as the starting material and the results also show that T cells produced with EpiTCer® are more effective in eliminating tumour cells compared to alternative methods based on stimulation with peptides or tumour extracts.

Cancer is caused by genetic changes in cells, leading to uncontrolled growth. These changes in the cancer cells can produce protein fragments that the immune system identifies as foreign, so-called neoantigens.

Stockholm 2022-05-05

The set of neoantigens of a tumor is usually unique to each patient. The body's immune system can identify the neoantigens and then eliminate the tumour cells. However, the immune system is often not strong enough to beat cancer alone, and new methods for stimulating the immune system have constituted a paradigm shift in cancer care. As many seriously ill cancer patients lack the conditions for a sufficiently robust immune system, further stimulation of the immune system only works for a few patients, though. In these cases, administration of tumour-eliminating immune cells may be required.

Neogap has developed a proprietary method for efficient production of T cells capable of tumour elimination.

"In this publication, which is a close collaboration with Dr. Stina L. Wickström and Professor Rolf Kiessling at Karolinska Institutet, we show a new way of feeding the patient's dendritic cells with EpiTCer® particles to activate tumour-specific T cells collected from the patient's blood," says Hans Grönlund, Associate Professor, CSO, and co-founder of Neogap.

Neogap's process of developing tumour-eliminating T cells begins with identifying the neoantigens via the company's proprietary software (PIOR®), using genomic information from tumour and normal tissue. Next, the neoantigens are produced and coupled to magnetic microbeads (EpiTCer® beads). Finally, dendritic cells that provide information to, among other things, T cells, engulf the microbeads and present the neoantigens to the T cells that previously were collected from the patient. In this way, tumour-specific T cells that recognize the neoantigens can be activated and proliferate.

The method is presented in a recently published article in the renowned scientific journal *Frontiers in Oncology*.

The study proves that the methodology works well to produce a T cell population that is considered beneficial for a potent T cell therapy. More specifically, the study shows that the technique surpasses alternative approaches based on peptides or tumour extracts to activate tumour-specific CD8 + T cells collected from the patients' blood and eliminate tumour cells.

"The results demonstrate the potential of our EpiTCer® technology and further strengthen our belief that the choice of neoantigens, and how to administer them, are critical parameters for the production of potent, tumour-targeted T cells and the foundation for successful immunotherapeutic treatment," says Samuel Svensson, CEO of Neogap.

Read the full article here:

[Generation of Tumor-Specific Cytotoxic T Cells From Blood via In Vitro Expansion Using Autologous Dendritic Cells Pulsed With Neoantigen-Coupled Microbeads](#)

For more information, please contact:

Samuel Svensson, CEO

Phone: +46 733 54 21 94

Email: samuel.svensson@neogap.se

Stockholm 2022-05-05

About Neogap Therapeutics

NEOGAP Therapeutics is a Swedish biotechnology company that develops individualised immunotherapy for the treatment of cancer using the patient's own cells. The therapy is based on the company's two technologies: PIOR[®], a software using DNA sequencing data from the patient and machine learning to select tumour-specific mutations; and EpiTCer[®], a method for proliferating the T cells that recognize the selected tumour-specific target structures. NEOGAP is located at the Center for Molecular Medicine, Karolinska Institutet in Stockholm. For more information, visit the company's website neogap.se.