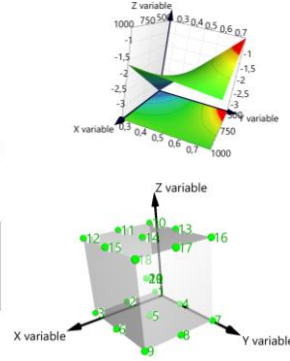
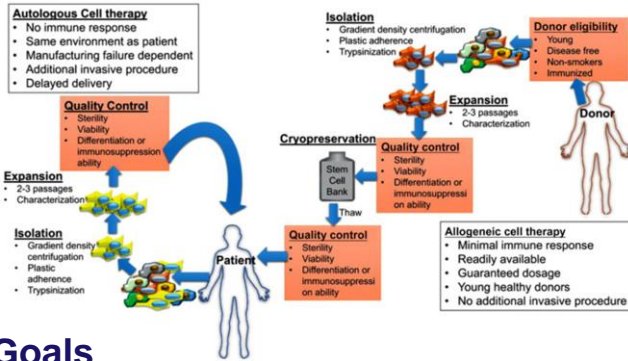


Background

Using **Natural killer (NK) cells** to treat cancer is a novel treatment approach. These lymphocytes are mainly found in the human bloodstream, but their natural number is too low to cure cancer. NK cells can be isolated from blood, enhanced through gene modification, stimulated *in-vitro* to expand in number and injected back into the patient where they can selectively target and kill malicious, cancerous cells. The challenge is to **develop cell expansion processes** to deliver enough cells with high killing potency in well-controlled conditions.



Goals

The aim of this work is to **systematically generate NK cell expansion process data** with the tools of Design of Experiments (DoE) to gain better **understanding of the cells' expansion characteristics**. The data should provide enough variability to study the effects of process parameters on cell culture outcome and to develop a process model.

What we offer

- Learning by applying novel, state-of-the-art culturing and analytical methods
 - o Work under laminar flow hood using single-use material and aseptic techniques
 - o Standard, small-scale cell culture practices in static and dynamic form
 - o Flow cytometry analysis
 - o HPLC analysis of amino acids in culture supernatants
- Get an insight of process data analysis and modelling on the novel field of cell therapies
- Possibility to participate in scientific publication
- Work in a team of young scientists and fellow students

The ideal candidate

- Studies bioengineering, biotechnology, biology or similar
- Has an open, interested, motivated personality with the desire to learn about cell culture process development
- Has basic knowledge and experience of standard cell culture work
- Has good English language skills

Time frame

The work starts at **1st October 2024** (possibile to start sooner) and is scheduled for 6 months.

If interested, please contact by e-mail

Bence Kozma, PhD
Team Lead Cell Therapy

bence.kozma@tuwien.ac.at

TU Wien
Institute of Chemical, Environmental and Biological Engineering (ICEBE)
Research Unit of Biochemical Engineering (166-4)

Gumpendorfer Straße 1a. BH04E02
A-1060 Vienna, Austria