

BSc/MSc-project for students in Biomedical Engineering, DTU/KU

Title: Immuno-backpacks – can they deliver drugs to brain cancers?

Description: Drug delivery to the brain is difficult due to the blood-brain barrier. This anatomical and physiological barrier prevents unwanted substances to enter the brain in order to maintain homeostasis. In brain cancers tumor cells grow in the brains and despite a somewhat leaky barrier drugs are of little effect. Peripheral immune cells are experts in patrolling and find non-normal cells. Indeed they have been found to pass the BBB accumulate in brain cancers. Thus, they could serve as carriers for anti-cancer drugs. In this project we would like to explore this.

Project aims:

- To label leukocytes with anti-cancer drugs
- To validate drug release kinetics from this system

Required qualifications: Experience in tissue culture, some knowledge in immunology, biochemistry

Responsible institution: DTU Nanotech

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Allowed no of students per report: 1-2

DTU supervisor: Casper Hempel, Serhii Kostrikov