



ESTS Biology Club Fellowship 2024

Centre: Hôpitaux Universitaires de Bruxelles, Belgium

Title: NeutroCan – Role of Neutrophils in Lung Cancer

Name of the supervisors: Dr. Maarten Vander Kuylen (Thoracic Surgery Department, Hôpitaux Universitaires de Bruxelles) and Dr. Mariana Brandão (Thoracic Oncology Unit, Medical Oncology Department, Institut Jules Bordet, Université Libre de Bruxelles)

Short summary:

The aim of this translational research project is to investigate the biological functions of tumour-associated neutrophils in non small cell lung cancer. There is growing evidence that neutrophils play an important role in modulating the tumour microenvironment in lung cancer.

To understand the complex interplay of these short-lived cells with tumour cells and the microenvironment, we are building a collection of pairwise-compared tumour-associated and healthy lung neutrophils, derived from different subtypes of non small-cell lung cancer. Patients with non small-cell lung cancer undergoing lung resection are currently being included (Ethic Committee approval has been obtained). From each resected surgical specimen two samples are collected: a tumour sample and a control sample (distant non-malignant lung tissue). Neutrophils are isolated within each sample and functional analyses (tumour-associated vs. distant neutrophils) are performed. -Omics analyses (proteomics, metabolomics or transcriptomics) will also be carried out at a later phase of the study. The selected ESTS Biology Club fellow will be integrated in the project and participate in both clinical (operating room attendance, data collection) and research activities (supervised activities in the lab).

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