Immunoprofiling of different subtypes of lymphoma using multiplexed immunofluorescence (mIF)

Background

The lymphoma tumor microenvironment (TME) which consist of fibroblasts, eosinophils, mast cells, macrophages, T-cells and other types of immune cells play an important role in tumor initiation, progression and resistance to therapy. The features of the TME differ between the different lymphoma types. Hence, there is need for a tool that can give a deeper understanding of interactions between lymphoma cells and non-malignant cells in TME and difference between biology and prognosis of different subtypes of lymphoma. This approach would be possible by using multiplex immunofluorescence (mIF) technique which provide quantitative assessment of multiple targets on the same tissue section.

The aims of this study are:

-to investigate the expression of six biomarkers in different subtypes of lymphoma using mIF.

-to characterize the interaction between immune cells and tumor cells in microenvironment and correlate with clinical data.

-to map the distance between immune cells and tumor cells and investigate any correlation with clinical parameters.

We are looking for a motivated Masters student to join and continue our project which intends to (i) Further image analysis in QuPath software (https://qupath.github.io/) for cell segmentation, classification, scoring and distance analysis.

(ii) Subsequent data analysis and statistical analysis with R software

Duration

20-30 weeks (30-45hp).

Start

June-July or Autumn 2024.

For more information, please contact Jamileh Hashemi at Dept of Immunology, Genetics & Pathology (IGP) Uppsala University (jamileh.hashemi@igp.uu.se).