V. Multiplex immunophenotyping

The plasticity, dynamic changes and polarization of cells in the immune system are very important parameters that may underlie a therapeutic response, drug resistance. Multiparametric immunophenotyping and isolation of specific immune cell subclasses would greatly facilitate a better understanding of diseases resulting from dysregulation of the immune system, such as cancer or chronic autoimmune diseases.

Our approach:

Our group is dedicated to the study of immune homeostasis disorders, and we have developed specialised technologies available only in Hungary. The Helios single-cell mass cytometer, with which 44 proteins can be analysed at the single-cell level, is a highlight. With the CyTEK Aurora spectral sorter, 48 proteins can be analysed at the single cell level and 6 different populations can be isolated from a biological sample. Our group has also established a carcinoma panel to investigate the single-cell response (sensitive versus resistant tumour cells) of antitumour agents.

Target group:

Pharmaceutical companies, biotech companies, university or HUN-REN research groups

Our related publications:

https://www.mdpi.com/1422-0067/21/1/170

https://www.mdpi.com/2073-4409/8/9/1093

https://www.sciencedirect.com/science/article/pii/S1672022921000553

https://www.mdpi.com/1422-0067/21/14/5135

https://www.mdpi.com/2072-6694/14/1/144

https://www.frontiersin.org/articles/10.3389/fimmu.2023.1243233/full

https://www.frontiersin.org/journals/immunology/articles/10.3389/fimmu.2023.1297577/full

https://www.frontiersin.org/journals/immunology/articles/10.3389/fimmu.2024.1376933/full

https://www.frontiersin.org/journals/immunology/articles/10.3389/fimmu.2024.1380481/full

https://www.cell.com/iscience/fulltext/S2589-0042(24)01104-0