



iSLICE: immunoSpot Layer Imaging of Cell Excretions

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Abstract:

Cancer patients who receive cancer immunotherapy treatments are tested using ELISpot applying single cell secretions of Peripheral Blood Mononuclear Cells (PBMC). These PBMC samples are indicative to the response of the patient's immune system. Interleukine 2 (IL2) and/or Interferon-gamma (IFN- γ) secreted by stimulated T-cells, but also IL6, IL8, TNF- α play an important role in the characterization of the immune response of a patient. InterFluidics BV received from the European Union's Horizon 2020 programme via ATTRACT funding to develop the so-called immuno Spot Layer Imaging of Cell Excretions (acronym: iSLICE). Ultra-sensitive techniques are applied to measure the secretion of single cells using an Enzyme Linked ImmunoSpot Assay (ELISpot) or FluoroSpot on capture membranes. The addition of an extra layer (or SLICE) opens new application areas for more multiplex cell secretion monitoring. In order to develop highly advanced imaging equipment e.g. using confocal fluorescent microscopy in 3D or Surface Plasmon Resonance imaging a different strategy is needed. In the presentation the technology and latest results will be shown for the iSLICE technology.



Biography:

Richard B.M. Schasfoort (1959) defended his PhD thesis for a new approach to biosensor operation in 1989. He is founder of the company IBIS Technologies BV in 1996. At the University of Twente Richard started the Biochip group and is co-author of > 100 peer reviewed papers and editor of the Handbook of Surface Plasmon Resonance (1st and 2nd edition). He is founder of the company InterFluidics BV for the purpose of imaging cell secretions.

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