

IP3-A2: Lab tour "CyTOF mass cytometry explanation + pictures of stained organoids"

Wednesday 12 October 2022 14:00 (1h 30m)

Mass cytometry based on CyTOF® (cytometry by time of flight) technology is currently the world's most advanced technology for single cell protein analysis. Antibodies are conjugated with rare earth (metal) isotopes of defined atomic masses, allowing the simultaneous identification of theoretically up to 50 protein markers in one cell. The Hyperion™ Imaging System combines CyTOF® technology with imaging capability, enabling detailed phenotypic characterization of different cell types and their spatial relationship in the context of surrounding tissue in highly multiplexed imaging. Here we present implantation sites of pregnant mice at midgestation where tissue architecture markers were detected.

Three-dimensional 3D cell cultures e.g. organoids resemble mini organs in a dish and mimic the tissue microenvironment with high fidelity. Here we present a 3D model of placenta organoids where placenta-specific markers were detected with immunofluorescence and subsequently visualized via fluorescent microscopy.

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Session Classification: Breakout Session