3D *ex vivo* imaging and quantification of the tumor vascularization

Tissues & Organs • Light Sheet • Advanced Media • Vascular Network • Oncology

YOUR NEEDS

- Study of tumor vascularization
- Preclinical evaluation of compound efficacy

OUR SOLUTIONS

- Light sheet microscopy and optical clearing to characterize vascularization
- Automated 3D image processing for vascular network quantification

General Procedure

Prior to sample collection by Imactiv-3D:
- *In vivo* labeling by infusion with a fluorescent lectin before euthanasia.
- Formalin fixation of extracted sample.
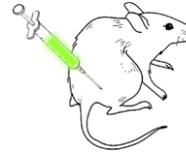
Image acquisition:
- Sample clearing.
- 3D light sheet fluorescence microscopy.
- Multi-position acquisition.

Image processing and analysis:
- Quantitative characterization of the vascular network:
  - Extraction of efficient volume.
  - Length and size of vessels, density of vascular network.
- 3D visualization with surface and volume rendering:
  - Reconstruction of the whole sample.
  - Advanced display using 3D animations.
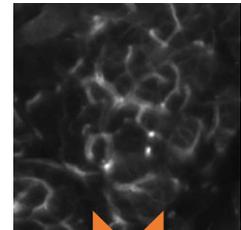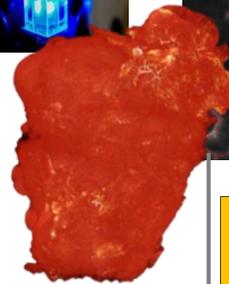
Raw data
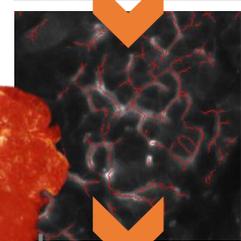
Segmentation
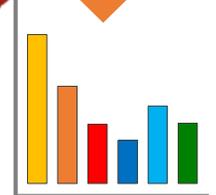
Quantification and visualization

Application example   *in collaboration with* SeaGull THERAPEUTICS

Aim: Characterization of the vascular structure in various healthy or pathological regions.

Region with an **unstructured** vascular network at 5X (left) and 10X (right) magnification.

5X

10X

1000 µm
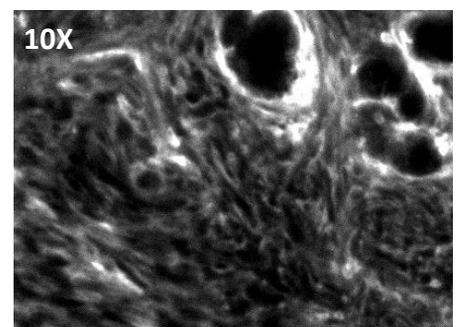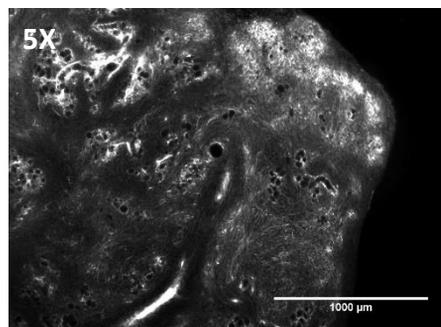
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