

Novel light microscopic approaches for visualizing lymphatic vessel development and function.

Lymphatic vessels return extravasated fluid, proteins, immune cells and dietary lipids from the interstitium to the venous circulation. Lymph vessels are indispensable for physiological fluid homeostasis, immune function and lipid metabolism, but may also contribute to pathologies like tumour spread, where they form conduits for metastasis.

In non-diseased tissues lymphatic vessels are hard to visualize, which may explain why research into lymphatics for decades lagged behind the investigation of the cardiovascular system. Recently available specific markers and transgenic model systems in conjunction with advanced microscopy technologies, like light sheet and 2-photon microscopy, now for the first time allow a detailed investigation of the development and function of lymphatic vessels. Novel findings on the first steps of development and on the function of lymph vessels in the mouse will be presented.