Laser Capture Microdissection for Quantitative Shotgun Lipidomics

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Abstract

In tissues or organs, lipids are not distributed uniformly. While staining with dyes or antibodies locates histological features at cryosections of tissues, it does not elucidate their molecular composition or infer their biological function. Here, we describe how to determine the molar abundance of hundreds of molecular species of major lipid classes, including membrane and neutral lipids, in the lipidome of spatially confined areas of tissue cryosections using laser capture microdissection coupled with shotgun mass spectrometry.