

## Mass Spectrometry Imaging of rat brain sections: nanomolar sensitivity with MALDI versus nanometre resolution by TOF-SIMS

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Mass spectrometry imaging is becoming a more and more widely used method for chemical mapping of organic and inorganic compounds from various surfaces, especially tissue sections. Two main different techniques are now available: matrix-assisted laser desorption/ionization, where the sample, preliminary coated by an organic matrix, is analyzed by a UV laser beam; and secondary ion mass spectrometry, for which the target is directly submitted to a focused ion beam. Both techniques revealed excellent performances for lipid mapping of tissue surfaces. This article will discuss similarities, differences, and specificities of ion images generated by these two techniques in terms of sample preparation, sensitivity, ultimate spatial resolution, and structural analysis.

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