



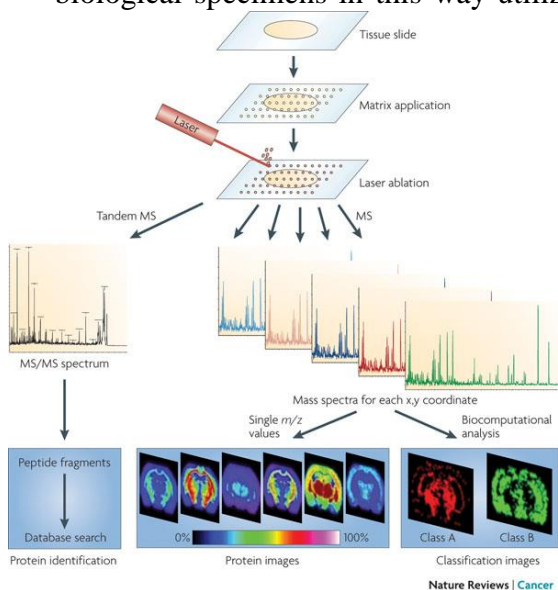
Vás zve na seminář:

What is Imaging Mass Spectrometry?

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Abstrakt

Imaging Mass Spectrometry is a technology that combines advanced analytical techniques for the analysis of biological molecules with spatial fidelity. An effective approach for imaging biological specimens in this way utilizes Matrix-Assisted Laser Desorption Ionization Mass Spectrometry (MALDI MS).



Briefly, molecules of interest are embedded in an organic matrix compound that assists in the desorption and ionization of compounds on irradiation with a UV laser. The mass-to-charge ratio of the ions are measured using a mass spectrometer over an ordered array of ablated spots. Multiple analytes are measured simultaneously, capturing a representation or profile of the biological state of the molecules in that sample at a specific location on the tissue surface. Generating an image using MALDI MS is accomplished by the systematic analysis of the entire sample area of interest. The laser is raster scanned across the tissue in order to collect molecular information from a regularly spaced array of positions. The molecular information encoded at

each location is extracted and plotted to create ion images that can be directly correlated with the location of specific biological molecules.

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