

CHALLENGES AND PERSPECTIVES IN PROTEINS AND PEPTIDES IMAGING BY MASS SPECTROMETRY

Carlos Bloch Jr

Laboratório de Espectrometria de Massa, Embrapa Recursos Genéticos e
Biotecnologia, Brasília-DF, Brasil

MALDI and Desorption Electrospray Ionization (DESI) are definitely the major ionization techniques for imaging mass spectrometry (IMS) to date. Regardless of the mass analyzer of choice (TOFs, Hybrids, Traps or ICR Cells), new spectrometers are entering the market capable of producing direct maps of multiple molecular ions either in animal or plant tissue sections. The identification and localization of possible biomarkers in several diseases or metabolic states, without the need of prior molecular labeling represent a power tool for the understanding of molecule interactions, activity and expression. In the past five years, the applications of IMS are extending quickly in a number of research areas. Taking all this facts in consideration, it will be presented here some examples of tissue imaging produced in our group, the challenges facing different specimens and the perspectives for the near future, particularly with the arrival of Ion Mobility Systems and DESI for small molecules.