HIGH DEFINITION MALDI IMAGING: NEW ANALYTICAL CAPABILITIES FOR PROTEIN BIOMARKER DISCOVERY FROM TISSUE

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Many biological tissues including tumors are heterogeneous at small scale and even at the cellular level. Increasing the lateral resolution in MALDI imaging experiments immediately translates into increased information yield. Several factors are important to obtain in high resolution MALDI imaging:

- The diameter of the laser spot determines the MALDI image resolution.
- The laser beam profile governs signal intensity and MALDI image quality.
- Interpretation of high resolution MALDI images requires their co-evaluation with histological information.

We found the rat testis to be an ideal model system for high-resolution MALDI imaging and analyzed protein distribution at 20 µm resolution.