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MALDI Imaging Mass Spectrometry for Tissue Proteomics in Gastric Cancer

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Matrix-assisted laser desorption/ionization (MALDI) imaging mass spectrometry is gaining increasing interest as a new analytical technique in molecular pathology, as it allows the unlabeled *in situ* measurement of hundreds of molecules (such as proteins) within the histomorphological context of tissue sections. Complex molecular patterns can be obtained for specific histological entities, such as tumor cells or inflammatory cells, without destroying the natural morphology of the tissue sections.

In our studies, we use MALDI imaging mass spectrometry for the identification of clinically relevant proteins in terms of prognosis and therapy response in gastric cancer patients. Our results highlight the usefulness of MALDI imaging for providing novel and clinical relevant information from tumor tissues, as well as its potential for tissue diagnostics.