

MALDI mass spectrometric imaging methods for localization and identification of pathophysiological relevant regulators in tissue samples

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Propositions

Belonging to the thesis: *“MALDI mass spectrometric imaging methods for localization and identification of pathophysiological relevant regulators in tissue samples”*

by Juliane Hermann

1. Post-translational modifications (PTMs) influence the progression of diseases such as chronic kidney diseases (CKD) and cardiovascular diseases (CVD). (*this thesis*)
2. Currently, only mass spectrometry and MALDI mass spectrometry imaging can detect and identify a wide range of circulated post-translational modifications (PTMs). (*this thesis*)
3. The identification of changes at the protein or of sub-stances that can neither be stained nor detected utilizing antibodies making mass spectrometry an indispensable analytical method in basic research. (*this thesis*)
4. Automatic registration of MALDI mass spectrometry imaging data and histological staining methods is needed and combines the microscopic and molecular level. (*this thesis*)
5. Guanidinylation of the Y-box-binding protein (YB-1) correlates with disease progression of systemic lupus erythematosus-associated CKD. (*Breitkopf et al. Kidney International, 2020*)
6. Guanidinylation of ApoC3 represents a novel pathogenic mechanism in CKD and CKD-associated vascular injury, pointing to gApoC3 as a potential therapeutic target. (*Schunk et al., JASN, 2021*)
7. MALDI-IMS should be considered as a valuable tool for histopathological examination and for the discovery of new markers. (*Zaima et al. Journal of Vascular Research, 2014*)
8. Much more than our abilities, it is our choices that show who we really are. (Dumbledore, Harry Potter)
9. Not all treasure's silver and gold. (*Jack Sparrow, Pirates of the Caribbean*)
10. The problem is not the problem. The problem is your attitude about the problem. (*Jack Sparrow, Pirates of the Caribbean*)