MALDI Imaging

MALDI Imaging has been successfully established as a rapid and sensitive method for the imaging of a variety of molecules, including nucleotides. However, the coincidence of high charge densities and low plasma energy in MALDI imaging currently limits the sensitivity of detection using this method. For example, recent studies have shown that MALDI imaging can struggle to detect adenine nucleotides in mice brain tissue. This is currently resolved using imaging MS/MS as an ion mobility separation step following MS/MS fragmentation allows for the selective determination of ATP, ADP and AMP, both on and off tissue.

The aim of the present study was to establish the potential of imaging MS/MS as an ion mobility separation step following MS/MS fragmentation for the detection and localisation of adenine nucleotides in mouse brain tissue. MS/MS experimental method for identification of ATP, ADP and AMP was subjected to localisation of adenine nucleotides in mouse brain tissue. The results show in Figure 5. The results show in Figure 5.

Conclusions

The implications of this analysis are that ion mobility MS/MS fragmentation and IMS separation methods were optimised to detect adenine nucleotides in mouse brain tissue. The results show in Figure 5.

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