

BACE enzyme kinetics detected by MALDI-TOF mass spectrometry

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Matrix-assisted laser desorption/ionization mass spectrometry was introduced for the analysis of enzyme kinetics and inhibition. The K_m for selected substrate and IC_{50} values for enzyme inhibitor were in a good agreement with results obtained by capillary electrophoresis coupled to electrospray mass spectrometry. More specifically, it was focused on β -secretase (BACE), an enzyme playing important role in Alzheimer's disease development. Its selective inhibition in brain could be beneficial for the patients; thus, specific inhibitor of this enzyme was examined as well. In comparison with traditional fluorometric or colorimetric methods, the both mass spectrometric approaches offered faster, sensitive and more precise BACE analysis.