INVESTIGATION OF MEMBRANE PEPTIDES BY TWO-DIMENSIONAL INFRARED SPECTROSCOPY

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Two-dimensional infrared spectroscopy (2D IR) is a useful tool for studying the structure of membrane peptides. Isotope labeling individual amino acids with 13C=18O decouples the isotope labeled amide I from the other amide I modes in the peptide. Work has been done on both the M2 ion channel and ovispirin antimicrobial peptide, studying the diagonal linewidths of the isotope labeled amide I. The diagonal linewidth of the isotope labeled amide I gives information about the local environment of that residue, which in turn gives structural information about the membrane peptide.