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### Interactions of Peptides with Model Membrane Systems Studied by NMR Spectroscopy

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The functions and the medicinal values of peptides are closely related to their structures. Most of the peptides function in the mediation of the membrane. Biological membrane serves important functions in the binding of peptide to a membrane-embedded receptor. It induces a specific conformation on to the polypeptide backbone prior to its interacting with its receptor. In this talk, the structures of some neuropeptides and antibacterial peptides in the model membrane system which mimics the biological membrane will be discussed. We used TFE/water mixture, micelles, vesicles, bicelle, and lipid bilayer to mimic the biological membrane. We will present our NMR, CD, and Fluorescence studies on the conformational ordering of peptides by membrane which is the critical factors in determining receptor binding specificity. The role of tryptophan residue of antibacterial peptide in the interaction with membrane will be discussed, too.