

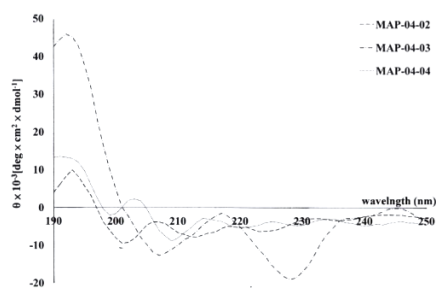
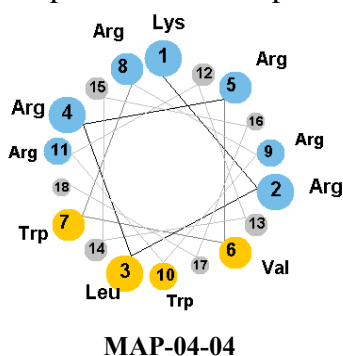
Development of Peptide-based Antimicrobial and Anticancer agents for Therapeutic Applications

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Antimicrobial peptides (AMPs) represent the first defense line against infection when organisms are infected by pathogens. These peptides are generally good targets for the development of antimicrobial agents. A series of peptide analogs of an antimicrobial peptide Ixosin-B, QLKVDLWGTRSGIQPEQHSSGKSDVRRWRSRY, were designed, synthesized and examined for their antimicrobial activities against *Escherichia coli*, *Staphylococcus aureus*, and *Pseudomonas aeruginosa*. We discovered an 11-mer peptide, KRLRRVWRRWR-amide, which exhibited potent antimicrobial activity while very little hemolytic activity in human erythrocytes was observed at 100 μ M. Further modifications of this peptide have led to the development of several potent antimicrobial and anticancer agents.



Circular dichroism spectra of MAP-04 peptide analogs

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Feng-Di Lung earned her undergraduate degree in Chemistry from Fu-Jen University in Taiwan. She earned her Master's degree in Chemistry from Lamar University, and Doctoral degree in Chemistry from the University of Arizona in U. S. A. Upon graduation, she joined the National Cancer Institute in National Institute of Health, U.S.A. as an associate researcher in the Laboratory of Medicinal Chemistry. Dr. Lung is currently a Professor in the Department of Chemistry at Tunghai University, where she has focused on the development of peptide-based anticancer, antibacterial agents, and bioanalytical assays for biomarkers of diseases such as oral cancer and osteoporosis. Dr. Lung has published 43 papers and has two U.S. patents and three Taiwan patents.