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Poster 3

Structural Studies of Cecropin A-Magainin 2 and Cecropin A-Melittin Hybrid Peptides in Trifluoroethanol-Water Mixture and Dodecylphosphocholine Micelle

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In this study, the hybrid peptides have been used to improve antimicrobial potency without hemolytic activity comparable to their parental peptides, cecropin A, magainin 2 and melittin. The hybrid peptide(CA-ME) drived peptide(CA-MA) from cecropin A(1-8) and magainin 2(1-12) has also potent antibacterial and more antitumor activities than CA-ME with less hemolysis. The interactions between peptides and membranes such as sodium dodecylsulfate micelle, dodecylphosphocholine micelle, phospholipid vesicles were investigated by fluorescence, circular dichroism and NMR experiments. Tertiary structures of the two hybrid peptides in trifluoethanol-d_3-water mixture and dodecylphosphocholine-d_{38} micelle were determined by NMR spectroscopy and the structure-activity relationships of these peptides will be discussed.