Showcasing research from Professor Hongda Wang's laboratory, Changchun Institute of Applied Chemistry, China.

Title: The study of single anticancer peptides interacting with HeLa cell membranes by single molecule force spectroscopy

Antimicrobial peptides that partly exhibit anticancer activities are potential candidates for novel broad spectrum therapeutic agents. However, the mechanism of action of these peptides is little known at the single molecule level. Based on Atomic Force Microscopy, we studied the mechanism of single anticancer peptides interacting with HeLa cell membranes. We revealed that the probability of interaction increased with increasing peptide hydrophobicity; however, the interaction force was dependent on the interaction position of the peptide in cell membranes. Based on the force event data and biological activities of peptides, we presumed that the action mode between α-helical peptides and cancer cells was largely hydrophobicity-dependent.

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