

Cyclic Lipopeptides: Interaction with Model Membranes

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Three lipopeptide families of *B. subtilis* (Iturins, Fengicins and Surfactins) have been characterized by ITC regarding their CMC (depending on different temperatures and pH values). ITC results have been compared to steady-state fluorescence spectroscopy to determine CMC values. To this end, three different fluorescent probes have been used – ANS, DPH and pyrene.

Also by ITC, the binding affinity of Fengycin to Ergosterol was tested. Therefore, binding curves of Fengycins to lipid membrane with and without Ergosterol was measured and the binding parameters fitted.

Inhibition of pathogens by antimicrobial lipopeptides depends on target species and correlates with their membrane lipid composition as validated by testing liposome leakage. A certain combination of lipopeptides is able to switch between synergistic, inhibitory, additive or independent action depending on peptide composition and lipid composition of the target membrane.