

LIPID CLUSTERING INDUCED BY ANTIMICROBIAL PEPTIDES IN MIXED PE/PG VESICLES: THE EFFECT OF PEG-LIPIDS

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Constantly growing antibiotic resistance increases the importance of alternatives to classical antibiotics. Therefore, we examine two different trivalent cyclic hexapeptides with varying sequences and antimicrobial activity which interact with lipid membranes in multiple ways. To analyse the mechanism of action, we investigate their effect on model membranes composed of phosphatidylethanolamine (PE) lipids and anionic phosphatidylglycerol (PG) lipids using DSC and ITC techniques. Previously, the peptides were shown to induce electrostatic lipid clustering which correlated with their antimicrobial activity [1]. Here, we show the effect of PEG-lipids on electrostatic lipid clustering.

[1] Finger et. al, *Biochim. Biophys. Acta* 1848, 2998–3006 (2015)