

# **How does the length of the fatty acid moiety affect the lipopeptide cytotoxicity and its entry into the cell membrane**

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Lipopeptides represent class of microbial secondary metabolites with amphipathic properties which result in their interaction with biological membranes. Cyanobacterial cyclic lipopeptides puwainaphycins are produced by cyanobacteria mostly in the soil environment. Interestingly, the structure of puwainaphycin varies widely in the amino acid composition as well as in the lipidic moiety. Only minor changes in the fatty acid moiety can affect the biophysical properties of lipopeptides resulting in their different bioactivity.