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Title:	Conformational studies of membrane-associated antimicrobial peptide dipterucin in bicellar environment using solution state NMR
Authors:	Gupta, Agrim (/jspui/browse?type=author&value=Gupta%2C+Agrim)
Keywords:	Antimicrobial Chemical Shift Nuclear Overhauser Effect
Issue Date:	21-Aug-2018
Publisher:	IISERM
Abstract:	Antimicrobial peptides (AMPs) are an important component of natural defense of all life forms against invading pathogens. The target of these peptides is the microbial membrane and there are numerous models to explain their mechanism of action ranging from pore formation to general membrane disruption. We here are studying the conformational studies of dipterucin, an 82 residue glycopeptide. It is the key AMP of Drosophila innate immunity and is active only against gram negative bacteria. It also inhibits the outer membrane protein synthesis. To study the conformational change of the peptide on association with bacterial membrane, identical membrane mimic is required. SDS micelles are used as a membrane mimic earlier, but to get ideal membrane environment, it has been replaced with bicelles which are bilayer lipid micelles. The peptide-bicelle association can be studied by 2D COSY, NOESY, TOCSY, ROESY, HSQC, HMBC spectra and the NMR peak assignment followed by structure prediction software which give us the validation and information about the structure of the protein.
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