

A membrane perspective on peptide-membrane interactions.

Recent results from solid-state NMR

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Mots-Clés : bacteria, membrane, lipids, mechanism of action, *in vivo* solid-state NMR

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Résumé :

NMR in general, and solid-state NMR in particular, is recognized for its capacity to determine biomolecule 3D structures with atomic resolution, even in membrane contexts (1). But solid-state NMR is also adapted to detect lipids, and thereby to probe lipid-peptide interactions from a membrane perspective. In this talk, we will briefly cover recent results from a few teams around the world who have taken this perspective, by ³¹P, ¹⁹F, ¹⁵N, ¹³C or ²H solid-state NMR, in whole cells. We will then present our recent results, involving *in vivo* ²H solid-state NMR under magic-angle spinning (2), allowing to measure membrane rigidity in living cells and its variation upon adding peptides. In case of lytic antimicrobial peptides, this variation is related to the peptide mechanism of action, and is thereby a new tool for the characterization of potential therapeutic peptides (3).

Références :

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