



Contribution ID: 22

Type: Oral

Septin oligomerization induces Membrane Remodeling

Wednesday, 15 March 2023 11:40 (20 minutes)

Septins are now recognized as a novel component of the cytoskeleton. They are highly conserved proteins in eukaryotes, which form oligomers by self-assembling into linear complexes and higher-order structures, including filaments, bundles and rings. The structure and functions of septins are intimately linked to cell membranes through their interaction with phosphatidylinositol phosphate lipids. They participate in a wide spectrum of cellular processes and the regulation of their expression is also associated with many pathologies.

To better understand the molecular mechanisms associated with septins function in membrane remodeling, we used supported lipid bilayers whose composition mimics the inner leaflet of the eukaryotic plasma membrane. We explored the effects of septins on these model membranes using correlative microscopy combining Atomic Force and fluorescence Microscopy, as well as high-speed atomic force microscopy.

Session

Molecular interactions at the membrane surface

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Session Classification: Molecular interactions at the membrane surface