

EFFECTS OF BIOACTIVE AMPHIPHILES ON MODEL CELL MEMBRANES

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Biosurfactants produced by *Bacillus subtilis* are attracting more and more attention in basic and applied research due to their high surface activity and to their important biological properties. Three main classes have been identified: surfactin, iturin and fengycin. These lipopeptides differ from each other by the nature and the number of amino acids in the peptide cycle and the nature and length of the fatty acid chain.

According to their structure, they exhibit numerous interesting biological activities including antibacterial, antimycoplasma, antiviral and antifungal actions, which give them a promising future in the pharmaceutical field.

Although these molecules have been studied since a long time, the detailed mechanism of action within a biological membrane is not completely understood.

The proposed presentation will start with a brief introduction dealing with the structure and the production of the three lipopeptides classes. Afterwards, it will be focused on different studies performed to get further insight about the molecular mechanism of these bioactive amphiphiles within a membrane. The combination of different membrane models (monolayers, supported bilayers and liposomes) and different physical techniques (Langmuir Film balance, Atomic force microscopy, differential scanning calorimetry, ellipsometry, cryo-transmission electron microscopy) is the approach used to obtain complementary information.

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