



Contribution ID: 3

Type: **Talk**

Stable DOPG/glycyrrhizin vesicles with a wide range of mixing ratios: Structure and stability as seen by scattering experiments and cryo-TEM

Tuesday, December 7, 2021 2:05 PM (25 minutes)

This study investigates the role of charged lipids in the plasma membrane with respect to the interaction of the antiviral saponin glycyrrhizin with such membranes. Glycyrrhizin is a natural triterpenic-based surfactant found in licorice. Vesicles made of 1,2-dioleoyl-sn-glycero-3-phospho-rac-(1'-glycerol) (DOPG)/glycyrrhizin are characterized by small-angle scattering with neutrons and X-rays (SANS and SAXS). Small-angle scattering data are first evaluated by the model-independent modified Kratky-Porod method and afterwards fitted by a model describing the shape of small unilamellar vesicles (SUV) with an internal head-tail contrast. Complete miscibility of DOPG and glycyrrhizin was revealed even at a ratio of lipid:saponin of 1:1. This is in line with the observation of glycyrrhizin not being haemolytic. Additional information about the chain-chain correlation distance of the lipid/saponin mixtures in the SUV structures is obtained from wide-angle X-ray scattering (WAXS).

Primary authors: Dr DARGEL, Carina (WWU Münster); GRÄBITZ-BRÄUER, Friederike; Dr GEISLER, Ram-sia (Uniklinikum Frankfurt); FANDRICH, Pascal (Universität Bielefeld); Dr HANNAPPEL, Yvonne (Universität Bielefeld); Dr PORCAR, Lionel (ILL); Prof. HELLWEG, Thomas (Universität Bielefeld, PCIII)

Presenter: Prof. HELLWEG, Thomas (Universität Bielefeld, PCIII)

Session Classification: Soft Matter

Track Classification: Soft Matter