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## Structural Investigations of a Model System for Multiple Sclerosis

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The myelin sheath is the membrane responsible for rapid signal transport in neurons. In multiple sclerosis, this membrane is damaged leading to neuron conduction failure. Myelin Basic Protein (MBP) which is the major structure protein of the myelin sheath has been proven to be an important factor in stabilizing the myelin sheath. In recent publications, a different lipid composition has been found for native and diseased membranes. Based on these results, we built membranes mimicking native and diseased myelin sheath lipid composition. In this model system, we want to investigate the interaction mechanism of MBP with the different membranes. Here, we present neutron reflectometry (MARIA of JCNS at MLZ Garching) and small angle neutron scattering (SANS) (KWS-2 of JCNS at MLZ Garching) data which show structural differences of native and diseased membranes. Furthermore, the injection of MBP to native and diseased membranes is shown to lead to a major change of the membrane structure.

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