

**AFM AND FILM BALANCE INVESTIGATIONS INTO THE ROLE OF THE MEMBRANE-ASSOCIATED LIPOPOLYSACCHARIDE-BINDING PROTEIN (LBP)**

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Lipopolysaccharide (LPS)-binding protein (LBP) has been described as an acute phase serum protein enhancing the LPS-induced activation of mononuclear cells by a shuttle mechanism. Recently, we obtained strong evidence from electrical measurements on planar membranes that LBP can also intercalate into bilayers and assume a transmembrane conformation. In the soluble form and at higher concentrations, LBP diminishes cell activation by LPS while in the transmembrane configuration it acts enhancing. To characterize the membrane incorporation of LBP in more detail, we applied film balance and AFM experiments. After addition of LBP into the aqueous phase of phosphatidylserine and -choline monolayers, we observed an increase of the film area induced by LBP intercalation at a constant lateral pressure of 15 mN/m. The evaluation of AFM images of different Langmuir-Blodgett films on mica [(phospholipid (PL)), (PL+LPS), (PL+LBP), (PL+LBP+LPS)] scanned in tapping mode backs the otherwise obtained information that LBP intercalates into the lipid membranes. It shows furthermore the formation of domains, however, so far we have no information whether these domains are composed solely of the protein or of a protein/lipid mixture.