

P007 A role for syndecan-1 in the cell responses induced by cyclophilin B.

Aurelie Melchior, Rachel Pakula, Agnes Denys, Joel Mazurier and Fabrice Allain.

Unité de Glycobiologie Structurale et Fonctionnelle, UMR 8576 CNRS, Université des Sciences et Technologies de Lille, Villeneuve d'Ascq, France.

Cyclophilin B (CyPB) is a cyclosporin A-binding protein which exhibits chemokine-like activities. We previously reported that it triggers chemotaxis and integrin-mediated adhesion of peripheral blood T lymphocytes by way of interaction with two types of binding sites, CD147 and cell-surface heparan sulphate (HS). Moreover, heparinase treatment of T cells inhibited CyPB-induced activation of Erk1/2 and cell adhesion. This inhibitory effect could not be corrected by the addition of soluble HS, indicating that they have to be attached at the cell surface of responsive cells. To explore the biological relevance of the interaction between CyPB and HS, we investigate the role of cell surface HS proteoglycans (HSPG) in the responses triggered by CyPB. We identified syndecan-1, -2, -4, betaglycan and CD44v3 as the HSPG present on T cells. Inhibition of CD147/syndecan-1 interaction by blocking antibodies or silencing of syndecan-1 expression by siRNA strongly reduced activation of Erk1/2 and subsequent adhesion of T cells. Altogether, these data indicate that CD147/syndecan-1 complex acts as the functional receptor for CyPB, providing a novel example of soluble mediator for which syndecans play a critical role in cell responsiveness.