



Integrin-mediated adhesion regulates membrane order.

Submitted by Soazig Le Lay on Tue, 01/27/2015 - 10:37

Titre	Integrin-mediated adhesion regulates membrane order.
Type de publication	Article de revue
Auteur	Gaus, Katharina [1], Le Lay, Soazig [2], Balasubramanian, Nagaraj [3], Schwartz, Martin A [4]
Editeur	Rockefeller University Press
Type	Article scientifique dans une revue à comité de lecture
Année	2006
Langue	Anglais
Date	28/08/2006
Pagination	725-34
Volume	174
Titre de la revue	The Journal of Cell Biology
ISSN	0021-9525
Mots-clés	Animals [5], Caveolae [6], Caveolin 1 [7], Cell Adhesion [8], Cell Membrane [9], Cells, Cultured [10], Endothelial Cells [11], fibroblasts [12], Focal Adhesions [13], Integrins [14], Membrane Fluidity [15], Membrane Lipids [16], Mice [17], Mice, Knockout [18], Mutation [19], Swine [20], Transfection [21]
Résumé en anglais	<p>The properties of cholesterol-dependent domains (lipid rafts) in cell membranes have been controversial. Because integrin-mediated cell adhesion and caveolin both regulate trafficking of raft components, we investigated the effects of adhesion and caveolin on membrane order. The fluorescent probe Laurdan and two-photon microscopy revealed that focal adhesions are highly ordered; in fact, they are more ordered than caveolae or domains that stain with cholera toxin subunit B (CtxB). Membrane order at focal adhesion depends partly on phosphorylation of caveolin1 at Tyr14, which localizes to focal adhesions. Detachment of cells from the substratum triggers a rapid, caveolin-independent decrease in membrane order, followed by a slower, caveolin-dependent decrease that correlates with internalization of CtxB-stained domains. Endocytosed CtxB domains also become more fluid. Thus, membrane order is highly dependent on caveolae and focal adhesions. These results show that lipid raft properties are conferred by assembly of specific protein complexes. The ordered state within focal adhesions may have important consequences for signaling at these sites.</p>
URL de la notice	http://okina.univ-angers.fr/publications/ua7124 [22]
DOI	10.1083/jcb.200603034 [23]
Lien vers le document	http://dx.doi.org/10.1083/jcb.200603034 [23]
Autre titre	J. Cell Biol.
Identifiant (ID) PubMed	16943184 [24]

Liens

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Publié sur *Okina* (<http://okina.univ-angers.fr>)