

P007 Coxsackievirus A9 utilises glucose-regulated protein (GRP)-78 and MHC class I as cell surface receptors

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Coxsackievirus A9 (CAV9) is a nonenveloped RNA virus associated with a wide variety of clinical symptoms such as flaccid paralysis, respiratory disease, myocarditis, as well as insulin-dependent diabetes mellitus. In our previous studies we have shown that in addition to integrin $\alpha\beta3$, the virus utilises glucose regulated protein 78 (GRP78) as a co-receptor, whereas MHC class I is involved in virus internalization. In this study using a variety of biochemical and biophysical approaches we demonstrate that lipid rafts play a significant role in the CAV9 infectious cycle. They provide sites where receptor molecules employed by the virus are concentrated. Our data suggests that CAV9 receptors, integrin $\alpha\beta3$, GRP78 and MHC class I are accumulated in increased concentrations within lipid rafts following virus infection. Our findings shed new light on CAV9-receptor associations and reveal the importance of GRP78-MHC class I targeting to lipid rafts in response to viral infections.