

RECONSTITUTION OF MEMBRANE BUDDING WITH UNILAMELLAR VESICLES

Anna V. Shnyrova *and* Joshua Zimmerberg

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Abstract

Enveloped virus particles select their lipid-protein components and egress by budding from the host cell membranes. The matrix protein of many enveloped viruses has been proposed as a crucial element for viral budding; however, molecular mechanisms behind membrane remodeling by the matrix protein are yet to be unraveled. Here, we describe a set of *in vitro* functional reconstitution assays that allow quantitative evaluation of both, membrane binding and creation of membrane curvature by the matrix protein isolated from Newcastle Disease Virus. Individual budding events orchestrated by the matrix protein can be resolved in real time. The assays may be applied for direct reconstitution of the on-membrane action of cellular proteins involved in membrane curvature induction upon binding *in vivo*.

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Jon Lorsch



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