

## Actin polymerization organizes WASH domains on endosomes

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Sorting of cargoes along the endocytic pathway occurs through their selective enrichment into sorting platforms, where transport intermediates are generated. The WASH complex, which binds directly to lipids [1,2], activates the Arp2/3 complex and hence actin polymerization, at restricted domains of endosomes [1,3]. Here we used quantitative image analysis to analyze the role of actin polymerization in the control of the endosomal sorting platforms containing WASH. Impairment of actin polymerization leads to enlarged endosomes onto which the WASH complex accumulates, with a dramatic decrease in recovery after photobleaching. This result suggests a built-in turnover, where the actin network, i.e. the product of the WASH complex, contributes to the dynamic cytosol/endosome exchange of the WASH complex. Moreover, impairment of actin polymerization induces coalescence of the WASH domains at the surface of endosomes. This behavior suggests that actin networks organize the lateral compartmentalization of endosomes into proteo-lipidic platforms.

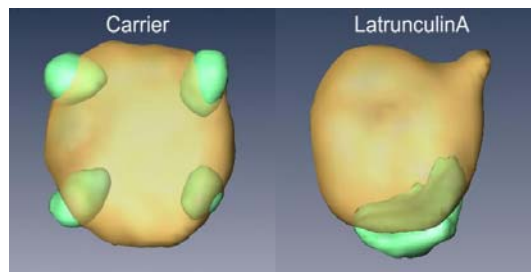


Fig. 1: WASH domains (in green) on endosomes (in yellow) in presence (left) and absence (right) of the actin network.

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### Références

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