

Supplementary data

Special issue: Membrane Dynamics

# The role of clathrin-dependent endocytosis in bacterial internalization

Esteban Veiga and Pascale Cossart

Unité des Interactions Bactéries-Cellules, Institut Pasteur, INSERM U604, INRA USC2020, 28 rue du Dr Roux, 75015 Paris, France

Corresponding author: Cossart, P. (pcossart@pasteur.fr).

Internalization of bacteria into mammalian host cells has been studied extensively in the past two decades. These studies have highlighted the amazingly diverse strategies used by bacterial pathogens to induce their entry in non-phagocytic cells. The roles of actin and of the whole cytoskeletal machinery have been investigated in great detail for several invasive organisms, such as *Salmonella*, *Shigella*, *Yersinia* and *Listeria*. Recent results using *Listeria* highlight a role for the endocytosis machinery in bacterial entry, suggesting that clathrin-dependent endocytic mechanisms are also involved in internalization of large particles. This contrasts with the generally accepted dogma but agrees with previous studies of bacterial and viral infections and also of phagocytosis.

## Movie

The movie shows a 3D reconstruction of confocal images showing localization of endogenous clathrin and *Listeria* during infection. HeLa cells were infected for 5 min with *Listeria* strain BUG 1641. Extracellular bacteria were detected with anti-*Listeria* rabbit serum on non-permeabilized cells. Total bacteria were detected with the same anti-*Listeria* serum on permeabilized – Triton-X100 treated – cells. Extracellular bacteria are shown in cyan and intracellular bacteria in green. Endogenous clathrin was detected using anti-clathrin heavy chain antibodies and is shown in red. 3D reconstructions were performed from 0.17  $\mu\text{m}$  confocal slice images using Osirix (<http://homepage.mac.com/rossetantoine/osirix/>).