

Cytoskeleton plays a key role in endocytic process. Vesicles move along microtubules to target membranes. Microtubules also partake in the formation of endosomal tubules, from which recycled vesicles are splitted off. Actin network has in endocytosis multi-ple effect as well. In the case of membrane fusion is its role both, positive and negative, for it creates mechanical force which facilitates the fusion in last stage. By contrast, in the first stage, it acts as a physical barrier, which needs to be removed. Actin also actively participates in fission of vesicles. Actin network and microtubules are thus interconnected with endocytic pathway in time and space. Right functional connection of the cytoskeleton with dynamics of endocytic vesicles is driven by many regulatory proteins. Among important regulators of actin network belong for example proteins of Arp2/3, WASH complex, WASP or Rab and Rho proteins.