Abstract

Tunneling nanotubes are a specific type of an intercellular junctions. These structures are thin long protrusions of cellular membrane containing mainly F-actin and form connections between the cells. These structures facilitate intercellular transport and the cargo transported by tunneling nanotubes is very variable – from cellular organelles to ions and proteins. Moreover, intracellular pathogens, like bacteria and viruses can use these structures to spread in the organism. Transport of the whole virions or viral proteins mediated by tunneling nanotubes was described for several families of enveloped viruses, e.g. Retroviruses, Herpesviruses or Ortomyxoviruses. Viruses from these families use nanotubes to spread their own viral progeny to uninfected cells and this type of transport allows them to escape from control of the host`s immune system.