

Abstract

Replication of many different viruses occurs in the nucleus of the host cell. These viruses discovered ways how to overcome the nuclear membrane and often use cell transport machinery to transport their proteins and genome into the nucleus. For many viral proteins the timing of their nuclear import in order to secure correct viral replication is important. Regulated nuclear import also allows these proteins to perform several functions depending on their localization. Nuclear import of viral proteins and complexes can be regulated by phosphorylation. Phosphorylation can, for example, modulate affinity of proteins for importins or other cellular proteins. Phosphorylation can also cause conformational change, which can lead to unmasking of localization sequence.