

The nuclear cytoskeleton (the nucleoskeleton) provides a structural integrity to the nucleus and is involved in number of key processes including transcription, chromatin remodelling and mRNA transport. The nucleoskeleton consists of nuclear lamins, nuclear actin and other proteins. Some viruses, which replicate themselves in the nucleus, use nuclear cytoskeleton in their life-cycle. On the other hand the nucleoskeleton may also represent a barrier for viral infection. Herpesviruses need nuclear actin for capsid assembly and transport, but they have to desintegrate the nuclear lamina in order to escape the nucleus. Nuclear actin also participates in the morphogenesis and probably nuclear export of baculovirus capsids. Some retroviruses transport their unspliced RNAs from the nucleus using nuclear actin and there is also some evidence of retrovirus-induced nuclear lamina disruption. In this work, I focus on the interactions of above-mentioned viruses with the nuclear cytoskeleton (namely nuclear actin and lamins).