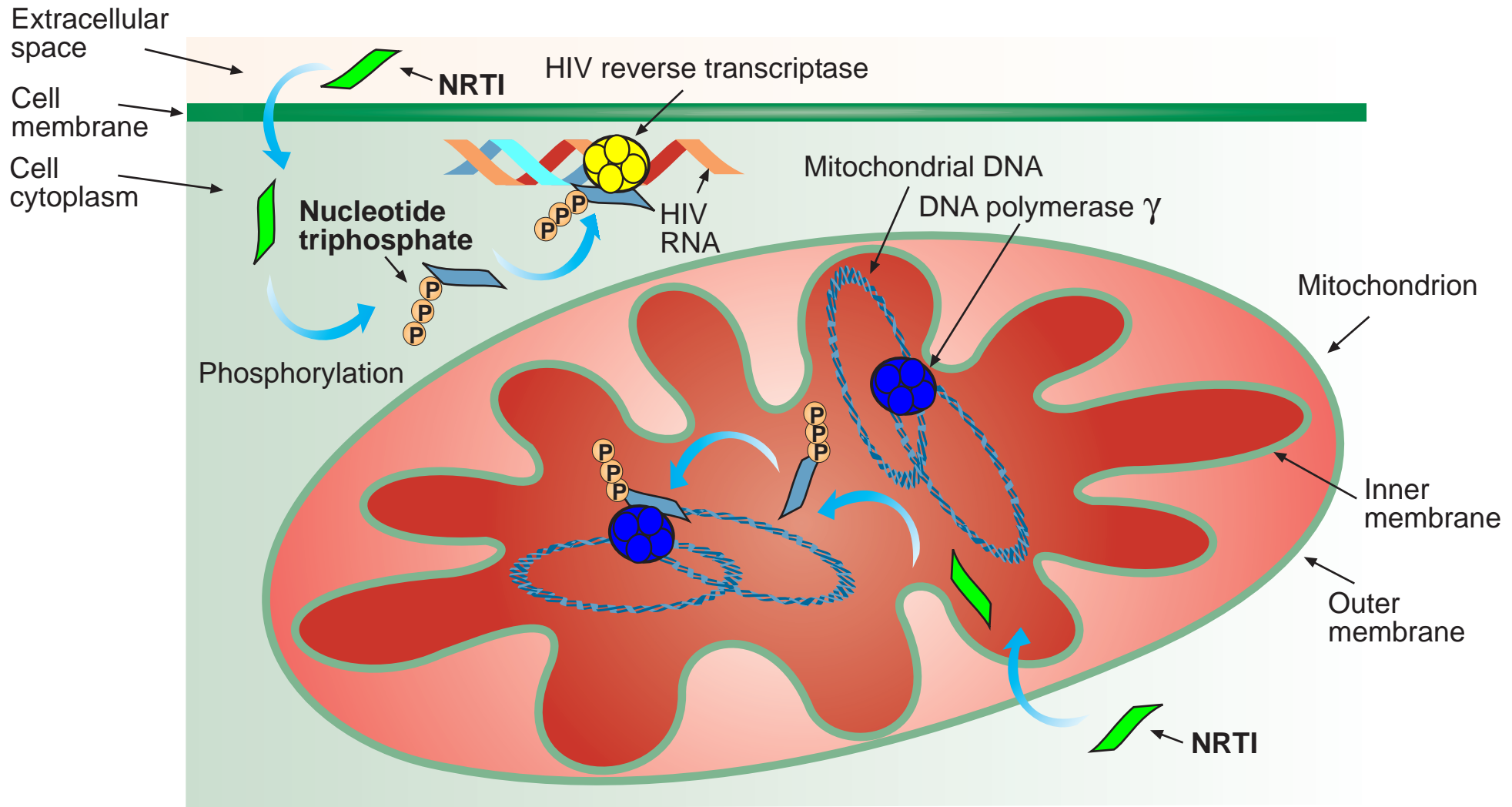


Mitochondrial drug toxicity



HIV replication is inhibited by NRTI's by chain termination following incorporation into viral DNA by HIV reverse transcriptase. There is no effect on the replication of nuclear DNA since NRTI's do not act as substrate for cellular DNA polymerases. However, replication of mitochondrial DNA is affected since NRTI's can act as substrate for DNA polymerase gamma. Depletion of mitochondrial DNA and hence reduced gene transcription and protein synthesis leads to an impairment of mitochondrial function.

