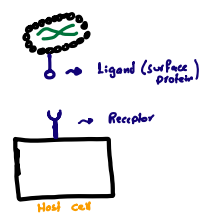


Viral replication

1 Attachment:

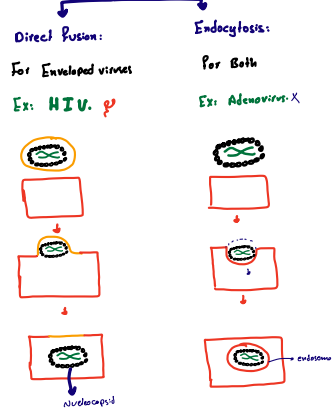


Specificity:
Determine tissue tropism.

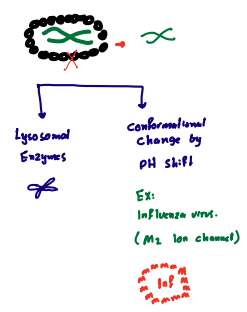
Examples:

- 1 Influenza virus:
Hemagglutinin bind to sialic Acid receptor on Respiratory cell
Ligand: Hemagglutinin, Receptor: sialic Acid, Tropism: Respiratory cell
(Neuraminidase: cleavage)
- 2 Covid-19:
Bind to ACE-2 receptor
- 3 HIU:
Spike protein bind to CD4 on T-helper cells
Ligand: Spike protein, Receptor: CD4, Tropism: T-helper cells

2 Penetration (entry)

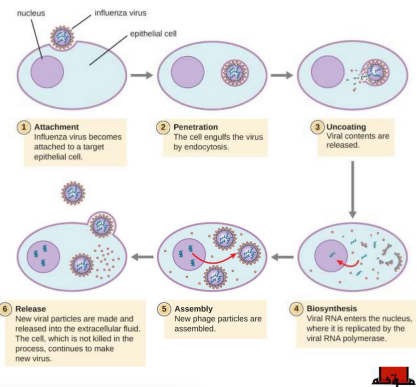


3 Uncoating:

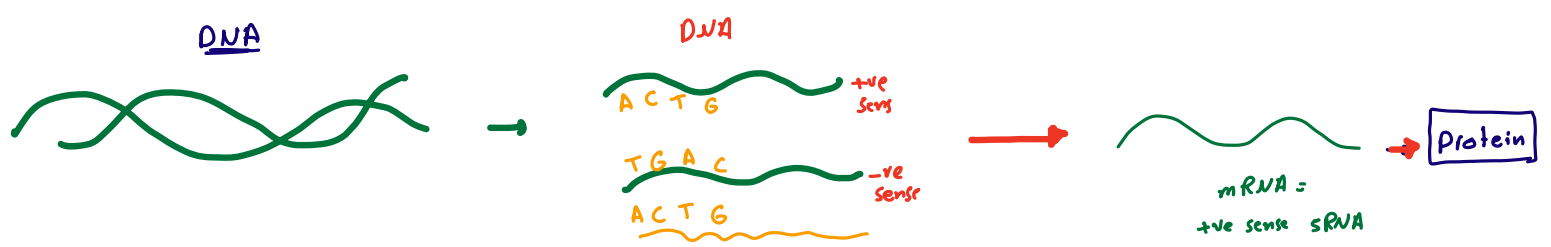


4 Synthesis:

(Replication & protein synthesis)
Site of NA synthesis:
DNA viruses → Nucleus
Except: Pox & Herpes
RNA viruses → cytoplasm
Except: Retrovirus & Orthomyxoviruses.



* Baltimore classification:



∴ mRNA (+ssRNA) was made from -ve sense DNA.

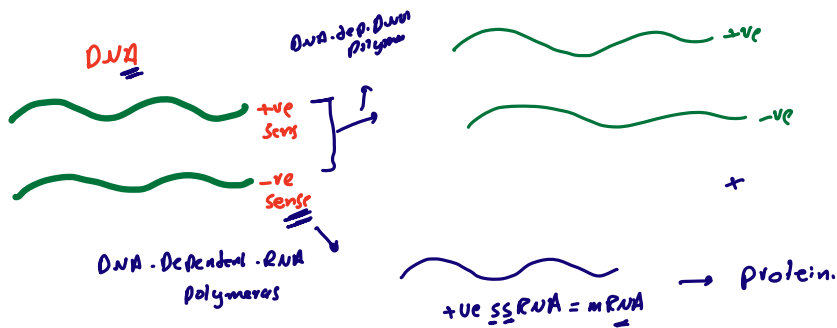
∴ mRNA translated into proteins.

- DNA-Dependent RNA polymerase: (Host)
- DNA-Dependent DNA polymerase: (Host)
- RNA-Dependent RNA polymerase: (Viral)

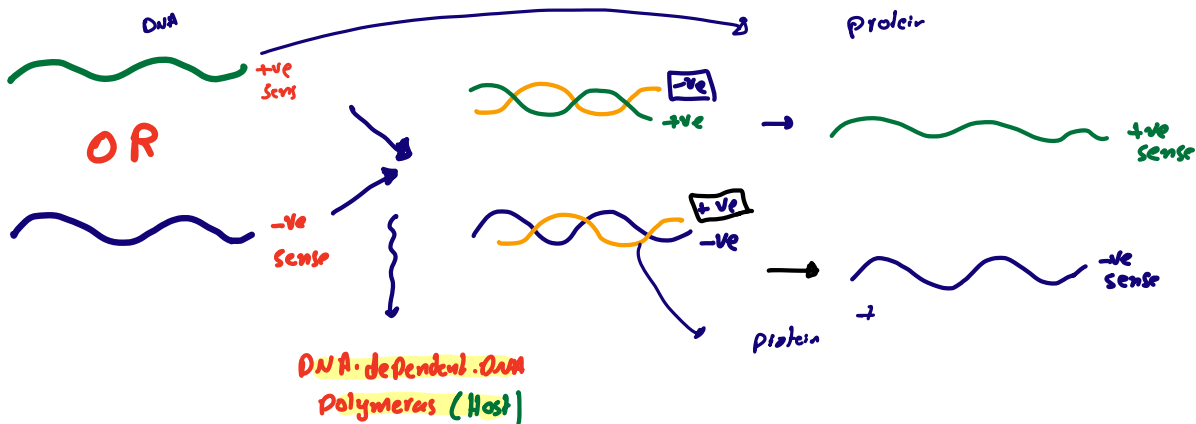
Baltimore classification system

| Group | Description |
|-------|---|
| 1 | Double-stranded DNA |
| 2 | Single-stranded DNA |
| 3 | Double-stranded RNA |
| 4 | Positive-sense single-stranded RNA |
| 5 | Negative-sense single-stranded RNA |
| 6 | Positive-sense single-stranded RNA with reverse transcription |
| 7 | Double-stranded DNA with reverse transcription |

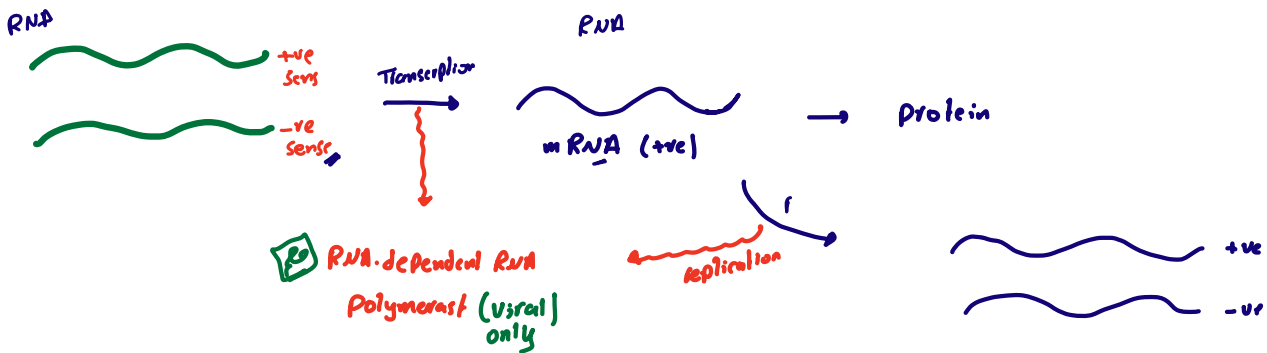
Group 1: ds DNA virus.



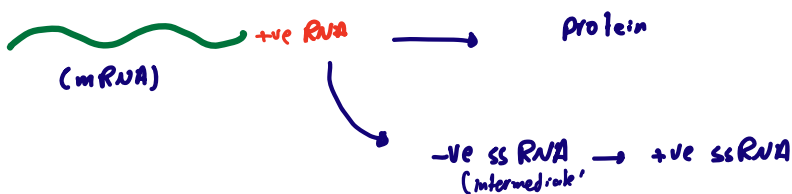
Group 2: ss DNA viruses



Group 3: ds RNA viruses:



Group 4: +ve ssRNA



Group 5: -ve ssRNA

