## TOPIC: ANTIVIRAL DRUGS

### Antiviral Drugs

◆ Viruses replicate _____ host cells → difficult to target for selective toxicity.

- Antivirals usually do not cure infection → _____ infection/lesson symptoms.
- Viruses can be functionally and structurally very _____ from each other.
  - (e.g., HIV, Herpes, Flu, COVID)

◆ Antivirals target different stages of the virus lifecycle:

**1. Attachment Agonists / Entry Inhibitors:**

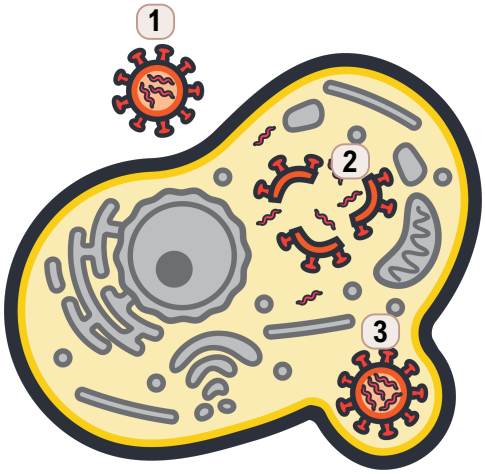
- Target _____ used by the virus to bind cells.

**Maraviroc**

**2. Viral Replication Inhibitors:**

- Nucleic acid _____ incorporated into the viral DNA / RNA, stopping replication.
  - Viral DNA polymerase, _____ transcriptase, RNA-dependent _____ polymerase.

**Acyclovir, Tenofovir, & Remdesivir**




**3. Assembly & Exit Inhibitors:**

- _____ inhibitors prevents cleaving of viral protein precursors.
- Block neuraminidase _____ that allows release of virus particles.

**Ritonavir (Paxlovid®), Saquinavir & Oseltamivir (Tamiflu®), Zanamivir**

## PRACTICE

Protease inhibitors (e.g., Ritonavir & Saquinavir) inhibit which part of the viral infection process?

a) They prevent viruses from binding to human cells by blocking their receptors.

b) They inhibit DNA/RNA synthesis, preventing viruses from replicating.

c) They block the large viral polypeptide from being cleaved into functional proteins.

d) They are synthetic forms of interferons, which help activate the immune system.

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### PRACTICE

Tenofovir is a drug used against HIV infections and works by inhibiting replication of the viral genome.

Based only on that information, which of the following statements do you think is likely true?

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a) Tenofovir is likely a protease inhibitor.

b) Tenofovir likely inhibits a viral specific DNA transcriptase.

c) Tenofovir likely inhibits reverse transcriptase.

d) Tenofovir likely inhibits RNA dependent RNA polymerase.