

BIO 206

SPRING SEMESTER 2019

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13 February 2019

Sometimes used to grow viruses in

- Flu virus is grown in embryonated eggs for vaccines

Release

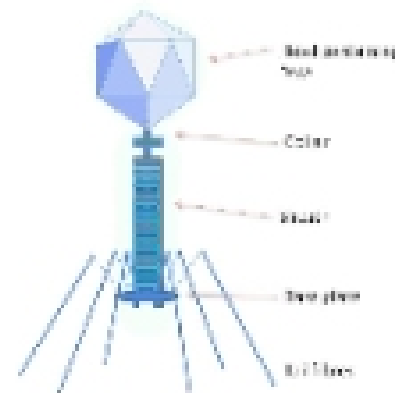
- Assembled animal viruses leave host cell in one of two ways:
 - Budding/Blebbing- exocytosis
 - Nucleocapsid binds to membrane which pinches off and sheds the viruses gradually
 - Lysis-viruses released when cell dies and ruptures
- Number of viruses released during lysis is variable
 - Poxvirus 3,000-4,000 released
 - Very large
 - Poliovirus >100,000 released
 - Very small

The process of budding in enveloped viruses.

- Enveloped virus looks like the host cell membrane
 - Evades immune response for a short time
 - Their viral spikes give them away
- Molecular mimicry
 - Budding of the enveloped virus

General Structure of Viruses

- Some **bacteriophages** (viruses that attack bacteria) have a polyhedral nucleocapsid along with a helical tail and attachment fibers



Multiplication Cycle in Bacteriophages

- **Bacteriophages-** bacterial viruses (phages)
 - Most widely studied are those that infect E. coli
 - Multiplication goes through similar stages as animal viruses
 - **Only nucleic acid enter** the cytoplasm
 - Release due to cell lysis = lytic cycle

Virus host range

has to be a receptor to accept viron on the surface

- Host cell infection → due to affinity of viral surface proteins for **complementary proteins (receptors)** on host cell surface means:
 - Host cell must possess a receptor that interacts with viral surface
 - No host receptor=no viral infectivity
 - Host range is determined by the presence of complementary receptors on host cell
 - Examples of host range:
 - Rabies virus → infects dog, human, etc
 - broad host range
 - T4 bacteriophage → only infects certain strains of E. coli
 - limited host range