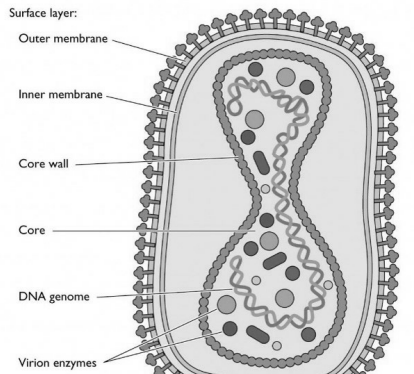


Structure



Structure

Spherical Shaped

Enveloped virus One lipid membrane

Outer layer Corrugated due to protrusions

Internal Core Dumbbell shaped

Lateral bodies Two present in the concavities between outer layer and Core

Outer core wall Palisade structure with T shaped spike proteins

Inner Core wall Smooth

Proteins for Attachment and Entry

Attachment A17, A25, A26, A27, D8, H3

Entry Entry A16, A21, A28, F9, G3, Fusion G9, H2, I2, J5, L1, L5, O3 Complex

proteins with enzymatic activities

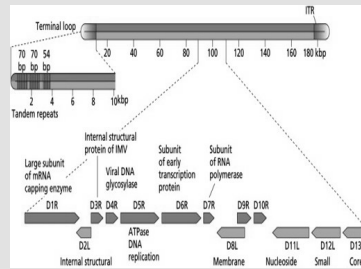
Redox active proteins E10, A2.5, and G4

Phosphorylation Kinase- F10 & B1

Dephosphorylation Phosphatase - H1

Proteolytic processing proteinase - I7

Genome

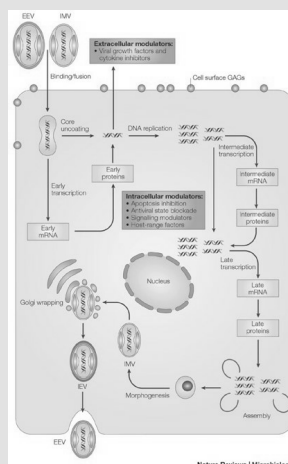


Genome Organisation

Terminal Regions Has ITRs with secondary hairpin loop structures that connect two DNA strands and contains the variable genes that are responsible for host cell interactions

Central Regions Conserved genes responsible for replication and morphogenesis

Replication Cycle



Replication steps

Attachment

Entry

Early gene transcription

Replication

Intermediate gene transcription

late gene transcription

Assembly

Release

Proteins For Replication

Early Gene Proteins Inducing proliferation of neighbouring cells

Counteracting host immune defences

Some proteins can induce a second uncoating reaction thereby releasing the viral genome from the core

Mediating replication of the genome

Proteins In Replication Viral DNA polymerase

Helicase-primase

Uracil DNA glycosylase

Single-stranded DNA-binding protein

DNA ligase

Holliday junction resolvase

Proteins In Transcription RNA polymerase

ETF

Capping enzyme

VITF-3

Proteins For Replication (cont)

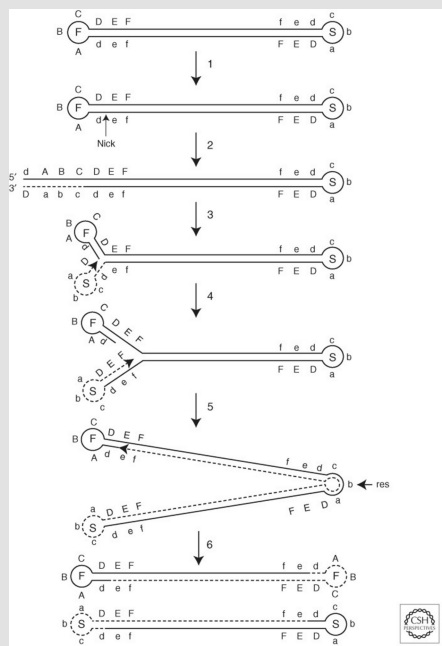
VLTF-1, VLTF-2, VLTF-3, VLTF4

Release factor Elongation factor

Poly(A) polymerase

DNA topoisomerase

Repliation strategy



Pathogenesis (cont)

After this, a second viremic period ensues, followed by seeding of distant sites, specially the skin, and generation of the characteristic generalized rash.

An eruption begins, with lesions forming macules, papules, vesicles, pustules, and crusts to scar formation from days 6 to 23 of the infection.

Pathogenesis

Entry through skin Entry through respiratory tract

Replication in Malpighian layer of epidermis, fibroblasts and histocytes Replication in alveolar macrophages and small bronchioles

Entry into lymphatic system

Entry into systemic circulation

The virus moves from the regional lymphatics to the bloodstream to cause primary viremia.

And then multiplies in the spleen, liver, bone marrow, and other reticuloendothelial organs.



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