

Cytomegalovirus replication steps and the actions of antiviral drugs

ABSTRACT

Human cytomegalovirus (HCMV) is a beta herpesvirus that inflicts an active infection in the fetus and immunosuppressive patients. The virus encodes many proteins that work together with cellular factors to achieve virus replication. In addition to vaccines, antiviral drugs can be deployed to manipulate how the virus replicates and minimize its pathogenicity. The five antiviral drugs approved by the Food and Drug Administration (FDA) have shown adverse reactions and the antiviral drug resistance were reported. Hence, this warrants the need for urgent development of a novel antiviral drug. Detailed understanding of the virus replication steps and how cellular signals interact with these steps will be key for pharmacological developments of for anti HCMV drugs. This review summarized all the drugs that target the virus proteins and cell signals that mediate CMV replication.

Keyword: Cytomegalovirus; Immunosuppressive patients; Congenital infection; Ganciclovir; Herpesvirus; Fomivirsen