GCV

Description: Ganciclovir is a white to off-white crystalline powder with a molecular formula of C9H13N5O4 and a molecular weight of 255.23.

Catalog #:SYPS-008

Physical Appearance: Sterile Filtered White lyophilized (freeze-dried) powder.

For research use only.

Purity: Greater than 99.0%.

Stability:

Lyophilized Ganciclovir althoµgh stable at room temperature for 3 weeks, should be stored at 4°C.

Usage:

NeoBiolab's products are furnished for LABORATORY RESEARCH USE ONLY. The product may not be used as drµgs, agricultural or pesticidal products, food additives or household chemicals.

Solubility:

It is recommended to reconstitute the lyophilized Ganciclovir in sterile 18M-cm H2O not less than 100µg/ml, which can then be further diluted to other aqueous solutions.

Introduction:

Ganciclovir (GCV) is a pro-drµg nucleoside analog that is activated by phosphorylation. It is useful in the study of gene therapy in cancer research. Ganciclovir is a synthetic analogue of 2'-deoxy-guanosine. It is initially phosphorylated to a deoxyguanosine triphosphate (dGTP) analogue. This mechanism competitively inhibits the integration of dGTP by viral DNA polymerase, resulting in the termination of elongation of viral DNA. Upon expression of a viral suicide gene encoding thymidine kinase, the non-toxic pro-drµg is converted to a phosphorylated active analog and is incorporated into the DNA of replicating eukaryotic cells, causing death of the malignant dividing cell. The cell cycle is irreversibly arrested at the G2-M checkpoint. Gap junction involvement in the ganciclovir bystander effect has been studied. Ganciclovir has been used to study loss of telomeres and to evaluate sensitivity of viruses to antiviral treatments. Ganciclovir is used in molecular biology for selection against random recombination events when homologous recombination of a gene of interest is required.

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