

Ganciclovir

Catalog No: tcsc2014



Available Sizes

Size: 100mg

Size: 1g

Size: 5g



Specifications

CAS No:
82410-32-0

Formula:
 $C_9H_{13}N_5O_4$

Pathway:
Anti-infection; Cell Cycle/DNA Damage

Target:
Antibiotic; CMV; HSV; Nucleoside Antimetabolite/Analog

Form:
White to off-white (Solid)

Purity / Grade:
99.46%

Solubility:
H₂O : 1.67 mg/mL (6.54 mM; Need ultrasonic)
DMSO : 60 mg/mL (235.08 mM; Need ultrasonic)

Storage Instruction:
2-8°C

Alternative Names:

BW 759;2'-Nor-2'-deoxyguanosine

Observed Molecular Weight:

255.23

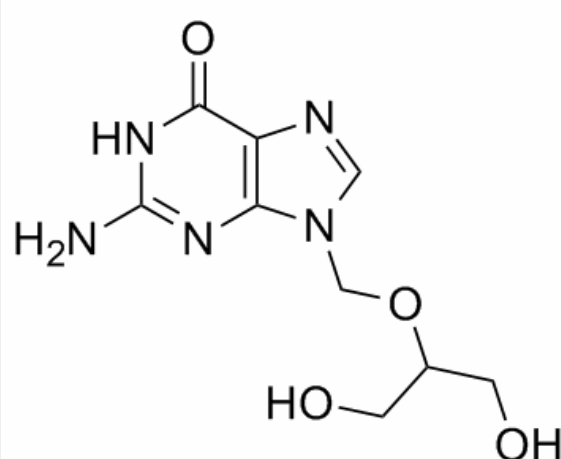
Product Description

Ganciclovir is a potent inhibitor of viruses of the herpes family, including cytomegalovirus (**CMV**), with an **IC₅₀** of 5.2 μ M for feline herpesvirus type-1 (FHV-1).

IC50 & Target: IC50: 5.2 μ M (FHV-1)^[1]

In Vitro: Ganciclovir is an acyclic deoxyguanosine analog structurally similar to acyclovir but with superior activity against CMV. The median ganciclovir concentration required to inhibit viral replication by 50 percent is 2.15 μ M versus 72 μ M for acyclovir^[2]. The primary mechanism of ganciclovir action against CMV is inhibition of the replication of viral DNA by ganciclovir-5'-triphosphate (ganciclovir-TP). This inhibition includes a selective and potent inhibition of the viral DNA polymerase. Ganciclovir is metabolized to the triphosphate form by primarily three cellular enzymes: a deoxyguanosine kinase induced by CMV-infected cells; guanylate kinase; and phosphoglycerate kinase^[3].

In Vivo: In adult rats, the intracochlear diffusion of ganciclovir is shown to achieve the same concentration as in blood. In gestating mice, transplacental diffusion is observed, with a fetal-to-maternal blood ratio of 0.5. In newborn mice, the plasma concentration profile of ganciclovir shows a peak at 2 h followed by a gradual decrease. In adult mice, the concentration peaked at 1 h, but becomes undetectable by 2 h after injection. Counts of white blood cells, red blood cells and platelets decreases significantly in ganciclovir-treated newborn mice^[4].



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