## **Product** Data Sheet

## Ganciclovir-d<sub>5</sub>

Cat. No.: HY-13637S

CAS No.: 1189966-73-1

Molecular Formula:  $C_9H_8D_5N_9O_4$ Molecular Weight: 260.26

Target: Nucleoside Antimetabolite/Analog; CMV; HSV; Antibiotic; Isotope-Labeled

Compounds

Pathway: Cell Cycle/DNA Damage; Anti-infection; Others

**Storage:** Please store the product under the recommended conditions in the Certificate of

Analysis.

## **BIOLOGICAL ACTIVITY**

Description	Ganciclovir- $d_5$ is the deuterium labeled Ganciclovir. Ganciclovir (BW 759), a nucleoside analogue, is an orally active antiviral agent with activity against CMV. Ganciclovir also has activity in vitro against members of the herpes group and some other DNA viruses. Ganciclovir inhibits the in vitro replication of human herpes viruses (HSV 1 and 2, CMV) and adenovirus serotypes 1, 2, 4, 6, 8, 10, 19, 22 and 28. Ganciclovir has an IC50 of 5.2 $\mu$ M for feline herpesvirus type-1 (FHV-1)[1][2][3].
In Vitro	Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs <sup>[1]</sup> .  MCE has not independently confirmed the accuracy of these methods. They are for reference only.

## **REFERENCES**

- [1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. Ann Pharmacother. 2019;53(2):211-216.
- [2]. Maggs DJ, et al. In vitro efficacy of ganciclovir, cidofovir, penciclovir, foscarnet, idoxuridine, and acyclovir against feline herpesvirus type-1. Am J Vet Res. 2004 Apr;65(4):399-403.
- [3]. Boujemla I, et al. Pharmacokinetics and tissue diffusion of ganciclovir in mice and rats. Antiviral Res. 2016;132:111-115.
- [4]. Fletcher CV, et al. Evaluation of ganciclovir for cytomegalovirus disease. DICP. 1989 Jan;23(1):5-12.
- [5]. Matthews T, et al. Antiviral activity and mechanism of action of ganciclovir. Rev Infect Dis. 1988 Jul-Aug;10 Suppl 3:S490-4.
- [6]. Duan J, Paris W, Kibler P, Bousquet C, Liuzzi M, Cordingley MG. Dose and duration-dependence of ganciclovir treatment against murine cytomegalovirus infection in severe combined immunodeficient mice. Antiviral Res. 1998;39(3):189-197.
- [7]. Faulds D, et al. Ganciclovir. A review of its antiviral activity, pharmacokinetic properties and therapeutic efficacy in cytomegalovirus infections. Drugs. 1990;39(4):597-638.

 $\label{lem:caution:Product} \textbf{Caution: Product has not been fully validated for medical applications. For research use only.}$ 

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