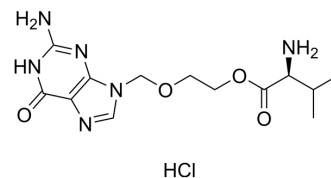


Valacyclovir hydrochloride

Cat. No.:	HY-17425A
CAS No.:	124832-27-5
Molecular Formula:	C ₁₃ H ₂₁ ClN ₆ O ₄
Molecular Weight:	360.8
Target:	HSV; Antibiotic; Bacterial
Pathway:	Anti-infection
Storage:	4°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

H₂O : 100 mg/mL (277.16 mM; Need ultrasonic)
DMSO : 43.33 mg/mL (120.09 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	2.7716 mL	13.8581 mL	27.7162 mL
	5 mM	0.5543 mL	2.7716 mL	5.5432 mL
	10 mM	0.2772 mL	1.3858 mL	2.7716 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

- Add each solvent one by one: PBS
Solubility: 100 mg/mL (277.16 mM); Clear solution; Need ultrasonic
- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
Solubility: ≥ 2.5 mg/mL (6.93 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
Solubility: ≥ 2.5 mg/mL (6.93 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
Solubility: ≥ 2.5 mg/mL (6.93 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Valacyclovir hydrochloride (Valaciclovir hydrochloride) is an orally active antiviral agent for herpes simplex, herpes zoster, and herpes B. Valacyclovir hydrochloride inhibits HSV-1 W (50=2.9 µg/ml). Valacyclovir hydrochloride is a proagent of Aciclovir (HY-17422) [1][2][3][4][5].

IC₅₀ & Target

HSV-1
2.9 µg/mL (IC₅₀)

In Vitro	<p>Valacyclovir hydrochloride (Valaciclovir hydrochloride; VACV) uptake was concentration dependent and saturable with a Michaelis-Menten constant and maximum velocity of 1.64 mM and 23.34 nmol/mg protein/5 min, respectively. A very similar Km value was obtained in hPEPT1/CHO cells and in rat and rabbit tissues and Caco-2 cells, suggesting that hPEPT1 dominates the intestinal transport properties of VACV in vitro^[5].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>
In Vivo	<p>For treatment of a first episode of genital herpes, a large comparative trial has shown that Valacyclovir hydrochloride (1 g twice a day) is as effective as acyclovir (200 mg five times a day) when given for 10 days. For treating recurrences, two trials show that valacyclovir is as effective as acyclovir (200 mg five times a day) with a treatment period of 5 days. A daily dose of 1 g of valacyclovir is as effective as 2 g daily. Valacyclovir can be administered once a day^[1].</p> <p>The concentrations of acyclovir in serum and CSF were measured at steady state after 6 days of oral treatment with 1,000 mg of valacyclovir three times a day^[2].</p> <p>EC50 values of PE and AC in 3T3 cells were 0.02 and 0.01 ug/ml, while values in BHK cells were 0.2 and 0.03 ug/ml. Treatment of infected immunosuppressed mice and FA and VA (b.i.d., 5.5 days) reduced the proportion with erythema from 100% to 24% and 38%, and eliminated ear paralysis, ear lesions (vesicles, etc) and death. Virus was absent from ear and brainstem by day 6, but reappeared after discontinuation in mice treated with VA^[3].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>

CUSTOMER VALIDATION

- Front Pharmacol. 2020 Mar 11;11:248.

See more customer validations on www.MedChemExpress.com

REFERENCES

- [1]. Valacyclovir. New indication: for genital herpes, simpler administration. Can Fam Physician. 1999 Jul;45:1698-700, 1703-5.
- [2]. Lycke J, et al. Acyclovir levels in serum and cerebrospinal fluid after oral administration of valacyclovir. Antimicrob Agents Chemother. 2003 Aug;47(8):2438-41.
- [3]. Comparison of efficacies of famciclovir and valaciclovir against herpes simplex virus type 1 in a murine immunosuppression model. Antimicrob Agents Chemother. 1995 May;39(5):1114-9.
- [4]. Dhaliwal DK, Romanowski EG, Yates KA, Valacyclovir inhibits recovery of ocular HSV-1 after experimental reactivation by excimer laser keratectomy. Cornea. 1999 Nov;18(6):693-9.
- [5]. Guo A, Hu P, Balimane PV, Interactions of a nonpeptidic drug, valacyclovir, with the human intestinal peptide transporter (hPEPT1) expressed in a mammalian cell line. J Pharmacol Exp Ther. 1999 Apr;289(1):448-54.

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA