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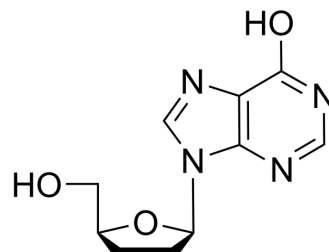
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Didanosine

Cat. No.:	HY-B0249
CAS No.:	69655-05-6
Molecular Formula:	C ₁₀ H ₁₂ N ₄ O ₃
Molecular Weight:	236.23
Target:	HIV; Reverse Transcriptase
Pathway:	Anti-infection
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro	DMSO : 62.5 mg/mL (264.57 mM; Need ultrasonic)					
	Preparing Stock Solutions	Solvent Concentration	Mass	1 mg	5 mg	10 mg
		1 mM		4.2332 mL	21.1658 mL	42.3316 mL
		5 mM		0.8466 mL	4.2332 mL	8.4663 mL
		10 mM		0.4233 mL	2.1166 mL	4.2332 mL
Please refer to the solubility information to select the appropriate solvent.						
In Vivo	1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.08 mg/mL (8.80 mM); Clear solution					
	2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.08 mg/mL (8.80 mM); Clear solution					
	3. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.08 mg/mL (8.80 mM); Clear solution					

BIOLOGICAL ACTIVITY

Description	Didanosine (2',3'-Dideoxyinosine; ddI) is a potent and orally active dideoxynucleoside analogue, and also is a potent nucleoside reverse transcriptase inhibitor. Didanosine shows antiretroviral activity for HIV ^{[1][2][3]} .
In Vitro	Didanosine is converted by cellular enzymes to the active antiviral metabolite dideoxyadenosine triphosphate (dd-ATP) and the intracellular half life of dd-ATP varies from 8-24 hours ^[1] . Didanosine shows antiretroviral activity with IC ₅₀ value of 0.24-0.6 mg/L for HIV infection ^[3] . Didanosine (5, 10, 50, 100 ug/ml; 24, 48 h) shows no significant inhibition of cell proliferation in IEC-6 cells ^[2] .

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Proliferation Assay^[2]

Cell Line:	IEC-6 cells
Concentration:	5, 10, 50, 100 ug/ml
Incubation Time:	24, 48 h
Result:	Did not show any significant inhibition of cell proliferation at either 24 h or 48 h.

Apoptosis Analysis^[2]

Cell Line:	IEC-6 cells
Concentration:	100 ug/ml
Incubation Time:	24 h
Result:	Induced apoptosis with the apoptosis rates of 4.7% to 7.4%.

In Vivo

Didanosine (100, 150 mg/kg; p.o.; daily for 7 days) decreases the length of duodenal and in jejunal villus in mouse^[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	30-40 g, male swiss mice ^[2]
Dosage:	100, 150 mg/kg
Administration:	P.o.; daily for 7 days
Result:	Caused significant reductions in duodenal and in jejunal villus length and significantly decreased ileal crypt depth.

CUSTOMER VALIDATION

- Int J Antimicrob Agents. 2019 Dec;54(6):814-819.

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REFERENCES

- [1]. Munir N.Nassar, et al. Analytical profiles of drug substances and excipients. Journals & Books, 1993, 185-227.
- [2]. Caroline M. Perry, et al. Didanosine. Drugs, 1999, 58, 1099-1135.
- [3]. Braga Neto MB, et al. Evaluation of HIV protease and nucleoside reverse transcriptase inhibitors on proliferation, necrosis, apoptosis in intestinal epithelial cells and electrolyte and water transport and epithelial barrier function in mice. BMC Gastroenterol. 2010 Aug 11;10:90.

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

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