Sorivudine

Cat. No.: HY-123032

CAS No.: 77181-69-2

Molecular Formula: $C_{11}H_{13}BrN_2O_6$

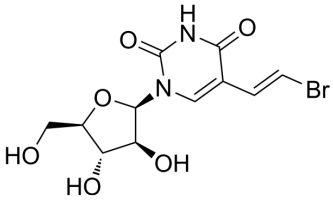
Molecular Weight: 349.13

Target: DNA/RNA Synthesis

Pathway: Cell Cycle/DNA Damage

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 : 125 mg/mL (358.03 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.8643 mL	14.3213 mL	28.6426 mL
5 mM	0.5729 mL	2.8643 mL	5.7285 mL
10 mM	0.2864 mL	1.4321 mL	2.8643 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 (5.96 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (5.96 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (5.96 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Sorivudine (BV-araU) is an orally active synthetic pyrimidine nucleoside antimetabolite agent. Sorivudine derives its antiviral activity from selective conversion by a specific thymidine kinase present in certain DNA viruses to nucleotides, which can in turn interfere with viral DNA synthesis[1].

In Vitro

Sorivudine (BV-araU) inhibits strains of HSV-1 and HSV-2 (wild-type strains VR-3 and UW-268) with ID_{50}s (50% inhibitory dose) of 0.39 and 0.67 μM, respectively[1].
Sorivudine has antiviral activity against several viruses including varicella zoster virus, herpes simplex type 1 virus, and

	Epstein-Barr virus[1]. Sorivudine (BV-araU) is a pyrimidine nucleoside analog which has in vitro inhibitory activity against varicella zoster virus (VZV) at concentrations of 00001-0.004 mg/ml These concentrations are over 1000-fold lower than those which are required for the inhibition of VZV replication by acyclovir 3 Sorivudine also inhibits HSV-I replication at concentrations ranging from 0.03-0.1 mg/ml[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Sorivudine (BV-araU) has been evaluated in the treatment of HSV-l encephalitis when administered orally to mice. At dosages in excess of 12.5 mg/kg, survival of treated mice is prolonged. With doses in excess of 50 mg/kg, a significant decrease in mortality was achieved as we1l. A more relevant model is that of simian varicella virus infection in African green monkeys (Cerophithecus aethiops). In this system, Sorivudine therapy at dosages as low as 20 mg/kg per day given intramuscularly or 100 mg/kg per day administered orally completely protected against viremia and mortality. In the conduct of these studies, there was no evidence of neurotoxicity or abnormalities in hematology or clinical chemistries. Doses as low as 0.2 mg/kg per day were effective; however, breakthrough viremia was noted at lower dosages[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Diasio RB, et al. Sorivudine and 5-fluorouracil; a clinically significant drug-drug interaction due to inhibition of dihydropyrimidine dehydrogenase. Br J Clin Pharmacol. 1998 Jul;46(1):1-4.

[2]. Whitley RJ, et al. Sorivudine: a potent inhibitor of varicella zoster virus replication.Adv Exp Med Biol. 1996;394:41-4.

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