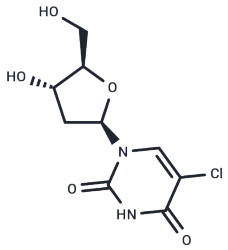
Data Sheet (Cat.No.T19151)

TargetMol

5-Chloro-2'-deoxyuridine

Chemical Properties



CAS No. : 50-90-8

Formula: C9H11ClN2O5

Molecular Weight: 262.65

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	5-Chloro-2'-deoxyuridine (5-Chlorodeoxyuridine) is a thymine analog. It can be used to study the potential of hypochlorous acid damage to DNA and DNA precursors.
Targets(IC50)	Nucleoside Antimetabolite/Analog,Others
In vitro	The mammalian cells incorporate the analog into DNA when 5-Chloro-2′-deoxyuridine (ClDU) is placed into the tissue culture medium. It is observed that a 10 μM concentration of 5-Chloro-2′-deoxyuridine in the media does not alter cell division kinetics. Previously it has been shown that 5-Chloro-2′-deoxyuridine is metabolized and incorporated into DNA using antibodies that bind selectively to DNA containing halogenated bases. In this study, 5-Chloro-2′-deoxyuridine is more similar to BrdU in acting as a T analog. The toxicity of 5-Chloro-2′-deoxyuridine could in part be attributed to inhibition of thymidylate synthase [1].

Solubility Information

Solubility	DMSO: 250 mg/mL (951.84 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Saline: 10 mg/mL (38.07 mM),Solution. 10% DMSO+40% PEG300+5% Tween 80+45% Saline: 4 mg/mL (15.23 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.8073 mL	19.0367 mL	38.0735 mL
5 mM	0.7615 mL	3.8073 mL	7.6147 mL
10 mM	0.3807 mL	1.9037 mL	3.8073 mL
50 mM	0.0761 mL	0.3807 mL	0.7615 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Kim CH, et al. Polymerase incorporation and miscoding properties of 5-chlorouracil. Chem Res Toxicol. 2010 Apr 19;23(4):740-8.

Yuan CJ, et al. Extended access methamphetamine decreases immature neurons in the hippocampus which results from loss and altered development of neural progenitors without altered dynamics of the S-phase of the cell cycle. Pharmacol Biochem Behav. 2011 Nov;100(1):98-108.