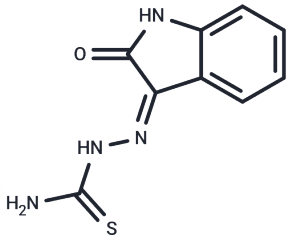
Data Sheet (Cat.No.T60272)

TargetMol

Isatin-β-thiosemicarbazone

Chemical Properties



CAS No. : 27830-79-1

Formula: C9H8N4OS

Molecular Weight: 220.25

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	Isatin-β-thiosemicarbazone is a potent inhibitor of herpes simplex virus (HSV), exhibiting antiviral activity against both HSV-1 and HSV-2. Moreover, it is an effective anti-poxvirus agent for the treatment of monkeypox, orthopox, and cowpox viruses.
Targets(IC50)	HSV,Virus Protease
In vitro	Isatin-beta-thiosemicarbazone (IBT) at a concentration of 14 muM inhibited the multiplication of vaccinia virus in HeLa cells. For the first 3 h after infection, viral deoxyribonucleic acid (DNA) was synthesized in the presence of IBT at the same rate as in the control culture.[2]

Solubility Information

Solubility	DMSO: 112.5 mg/mL (510.78 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 4 mg/mL (18.16 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	4.5403 mL	22.7015 mL	45.403 mL
5 mM	0.9081 mL	4.5403 mL	9.0806 mL
10 mM	0.454 mL	2.2701 mL	4.5403 mL
50 mM	0.0908 mL	0.454 mL	0.9081 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

Meis RJ, et al. Genetic and molecular biological characterization of a vaccinia virus gene which renders the virus dependent on isatin-beta-thiosemicarbazone (IBT). Virology. 1991;182(2):442-454.
Katz E, et al. Synthesis of vaccinia virus polypeptides in the presence of isatin-beta-thiosemicarbazone. Antimicrob Agents Chemother. 1973;4(1):44-48.
Arndt WD, et al. Monkeypox virus induces the synthesis of less dsRNA than vaccinia virus, and is more resistant to the anti-poxvirus drug, IBT, than vaccinia virus. Virology. 2016;497:125-135.