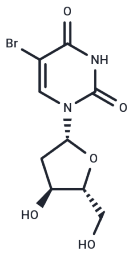
Data Sheet (Cat.No.T6794)

TargetMol

5-BrdU

Chemical Properties



CAS No. : 59-14-3

Formula: C9H11BrN2O5

Molecular Weight: 307.1

Appearance: no data available

Storage: keep away from direct sunlight
Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Biological Description

Description	5-BrdU (Broxuridine) , a nucleoside analog, are used in the detection of proliferating cells and competes with thymidine for incorporation into DNA.
Targets(IC50)	Nucleoside Antimetabolite/Analog
In vitro	In RG2 rat glioma cells, 5-BrdU induces a progressive, dose-responsive suppression of cancer cell line and cancer stem cell population expansion. In H9 cells and BJ fibroblasts, 5-BrdU alters the cell cycle profile. [1] BrdU is stably integrated into the DNA, and thus can be used in assessment of cell proliferation and other cell procession. [2]
In vivo	In rat glioma RG2 tumor model, Bromodeoxyuridine (300 mg/kg, i.p. or 0.8 mg/ml, p.o.) significantly slows tumor progression. [1]
Kinase Assay	Assays are run in the presence of 100 μM ATP using 10 μM of substrate. 30 μL PROTEIN-MIX in 25% DMSO and incubated for 15 min at room temperature. 10 μL PEPTIDE-MIX is added, the mixture is incubated for 60 min at RT and stopped by adding 180 μL 6.4% TCA (final concentration: 5%). Incorporated phosphate is measured in a scintillation counter and IC50 values are calculated using a sigmoidal curve analysis program with variable hill slope[1].
Cell Research	Cultures are initially plated at 2000 cells/cm2 and are quantified with a Z2 Coulter Counter. RG2 rat glioma cells are treated once with 0, 1, 10, or 50 μM BrdU for 24 hours, and cumulative growth curves were obtained over 18 days. Control and treated cells are quantified and replated at equal densities on days 5, 12, and 18 after treatment.(Only for Reference)

Solubility Information

Solubility	Ethanol: 2 mg/mL (6.51 mM),Sonication is recommended. H2O: 15.4 mg/mL (50.15 mM),Sonication is recommended. DMSO: 50 mg/mL (162.81 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.2563 mL	16.2813 mL	32.5627 mL
5 mM	0.6513 mL	3.2563 mL	6.5125 mL
10 mM	0.3256 mL	1.6281 mL	3.2563 mL
50 mM	0.0651 mL	0.3256 mL	0.6513 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.

Reference

Levkoff LH, et al. Neoplasia. 2008, 10(8), 804-816.
Wang W, Ren S, Lu Y, et al. Inhibition of Syk promotes chemical reprogramming of fibroblasts via metabolic rewiring and H2S production. The EMBO Journal. 2021 Jun 1;40(11):e106771. doi: 10.15252/embj.2020106771. Epub 2021 Apr 28.
Huang J, Fan H, Chen Y M, et al.The salt-inducible kinases inhibitor HG-9-91-01 exhibits antidepressant-like actions in mice exposed to chronic unpredictable mild stress.Neuropharmacology.2023: 109437.
Rothaeusler K, et al. Curr Protoc Cytom. 2007, Chapter 7, Unit7, 31.
Zhu X, Gao C, Peng B, et al.FOXP1 phosphorylation antagonizes its O-GlcNAcylation in regulating ATR activation in response to replication stress.The EMBO Journal.2024: 1-27.

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