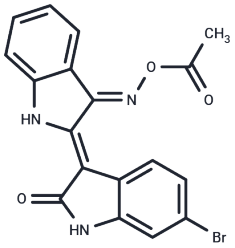
Data Sheet (Cat.No.T6787)

TargetMol

BIO-acetoxime

Chemical Properties



CAS No. : 667463-85-6

Formula: C18H12BrN3O3

Molecular Weight: 398.21

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	BIO-acetoxime (GSK-3 Inhibitor X) is a potent dual GSK3α/β inhibitor with IC50 of 10 nM, >240-fold selectivity over CDK5/p25, CDK2/cyclin A and CDK1/cyclin B.
Targets(IC50)	Apoptosis,HSV,GSK-3
In vitro	In human oral epithelial cells, BIO-acetoxime suppresses viral gene expression and protects oral epithelial cells from HSV-1 infection. [2] In SY5Y-MYCN cells, BIO-acetoxime strongly reduces c-MYC expression and p-SMAD3 levels. BIO-acetoxime also decreases cell viability of KCN, KCNR, SY5Y, Kelly, and IMR32 cells by mediating apoptosis. [3] In HEK 293T cells, BIO-acetoxime is also found to reduce antiviral innate immunity downstream of IRF3 activation by inhibition of GSK3α/β activities. [4]
Kinase Assay	Kinase Assays: Kinases activities are assayed in Buffer A or C, at 30 °C, at a final ATP concentration of 15 μM. Blank values are subtracted and activities calculated as pmoles of phosphate incorporated for a 10 min incubation. The activities are expressed in % of the maximal activity, i.e., in the absence of inhibitors. Controls are performed with appropriate dilutions of DMSO. GSK-3α/β is purified from porcine brain by affinity chromatography on immobilized axin. It is assayed, following a 1/100 dilution in 1 mg BSA/mL 10 mM DTT, with 5 μL 40 μM GS-1 peptide as a substrate, in buffer A, in the presence of 15 μM [γ-33P] ATP (3000 Ci/mmol; 1 mCi/mL) in a final volume of 30 μL. After 30 min incubation at 30 °C, 25 μL aliquots of supernatant are spotted onto 2.5 × 3 cm pieces of Whatman P81 phosphocellulose paper, and, 20 s later, the filters are washed five times (for at least 5 min each time) in a solution of 10 mL phosphoric acid/liter of water. The wet filters are counted in the presence of 1 mL of ACS scintillation fluid. CDK1/cyclin B is extracted in homogenization buffer from M phase starfish (Marthasterias glacialis) oocytes and purified by affinity chromatography on p9CKShs1-sepharose beads, from which it is eluted by free p9CKShs1. The kinase activity is assayed in buffer C, with 1 mg histone H1 /mL, in the presence of 15 μM [γ-32P] ATP (3000 Ci/mmol; 1 mCi/mL) in a final volume of 30 μL. After 10 min incubation at 30 °C, 25 μL aliquots of supernatant are spotted onto P81 phosphocellulose papers and treated as described above. CDK5/p25 is reconstituted by mixing equal amounts of recombinant mammalian CDK5 and p25 expressed in E. coli as GST (Glutathione-S-transferase) fusion proteins and purified by affinity chromatography on glutathione-agarose (p25 is a truncated version of p35, the 35 kDa CDK5 activator). Its activity is assayed in buffer C as described for CDK1/cyclin B.0

Cell Research	Cell viability is analyzed by CellTiter 96 AQueous One Solution Cell Proliferation Assay according to manufacturer's instructions, approximately 5,000 cells are plated per well of 96-well tissue culture plates with 100 μL of medium. To assess cell viability, rather than proliferation rate, inhibitor- and control-treated cells are assayed after the same growth time had elapsed. The results represent the mean ± SD of triplicate samples, expressed as a percentage of control.(Only for Reference)

Solubility Information

Solubility	DMSO: 8 mg/mL (20.09 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: 1 mg/mL (2.51 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	2.5112 mL	12.5562 mL	25.1124 mL
5 mM	0.5022 mL	2.5112 mL	5.0225 mL
10 mM	0.2511 mL	1.2556 mL	2.5112 mL
50 mM	0.0502 mL	0.2511 mL	0.5022 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

Polychronopoulos P, et al. J Med Chem. 2004, 47(4), 935-946.
Hsu MJ, et al. Arch Virol. 2013, 158(6), 1287-1296.
Duffy DJ, et al. Mol Cancer Ther. 2014, 13(2), 454-467.
Khan KA, et al. Mol Cell Biol. 2015, 35(17), 3029-3043.