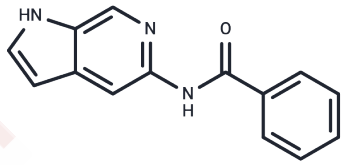
Data Sheet (Cat.No.T2040)

TargetMol

OAC1

Chemical Properties



CAS No. : 300586-90-7

Formula: C14H11N3O

Molecular Weight: 237.26

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	OAC1 (BAS 00287861) is a compound activating Octamer-binding transcription factor 4 (Oct4). It enhances the iPSC reprogramming efficiency and accelerates the reprogramming process.
Targets(IC50)	OCT,DNA Methyltransferase
In vivo	OAC1 appears to enhance reprogramming efficiency by increasing transcription of the Oct4-Nanog-Sox2 triad and Tet1, a gene known to be involved in DNA demethylation. OAC1 does not inhibit the p53-p21 pathway or activate Wnt-β-catenin signaling.OAC1 can be used to enhance the reprogramming of somatic cells to a pluripotent state.1 μM OAC1 enhances the reprogramming efficiency by activating the Oct4 and Nanog promoter-driven luciferase reporter genes. In addition, OAC1 enhanced the reprogramming efficiency and accelerated the reprogramming process of pluripotent stem cells (iPSCs) in mouse embryonic fibroblasts (MEFs) treated with four reprogramming factors (Oct4, Sox2, c-Myc and Klf4).
Kinase Assay	Enzymology: Kinesin motor domains are expressed in Escherichia coli BL21(DE3) and purified. CENP-E proteins includes residues 2-340 with a carboxyl-terminal 6-his tag. All studies using MT are conducted in PEM25 buffer [25 mM PipesK+ (pH 6.8), 2 mM MgCl2, 1 mM EGTA] supplemented with 10 μM paclitaxel. The IC50 for steady-state inhibition is determined at 500 μM ATP, 5 μM MT, and 1 nM CENP-E in PEM25 buffer.
Cell Research	The Oct4-luc or Nanog-luc cells are treated with compound OAC1 at 1 μM concentration. Luciferase reporter assays are performed 24 h after OAC1 treatment.(Only for Reference)

Solubility Information

Solubility	Ethanol: 23.7 mg/mL (99.89 mM),Sonication is recommended. DMSO: 23.7 mg/mL (99.89 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: 2 mg/mL (8.43 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	4.2148 mL	21.0739 mL	42.1479 mL
5 mM	0.843 mL	4.2148 mL	8.4296 mL
10 mM	0.4215 mL	2.1074 mL	4.2148 mL
50 mM	0.0843 mL	0.4215 mL	0.843 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

Li W, et al. Proc Natl Acad Sci U S A, 2012, 109(51), 20853-20858.