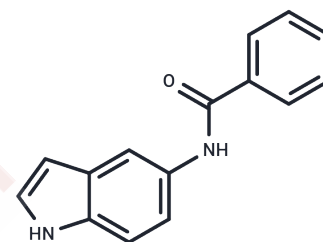


## OAC2

## Chemical Properties

CAS No. :	6019-39-2
Formula:	C <sub>15</sub> H <sub>12</sub> N <sub>2</sub> O
Molecular Weight:	236.27
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	OAC2 is an Oct4 activator which activates expression through the Oct4 gene promoter; enhances reprogramming efficiency by increasing the rate of production of induced pluripotent stem cells (iPSCs) from embryonic fibroblasts; an analog of OAC1.
Targets(IC50)	OCT
In vitro	Octamer-binding transcription factor 4 (Oct4) is crucial for initiating and maintaining cellular pluripotency, especially during early differentiation stages, and cannot be substituted by any family members for this function[1]. Essential for embryonic stem cell (ESC) pluripotency and reprogramming, Oct4, along with Sox2, Klf4, and c-Myc, benefits from the structural analog OAC2, which activates Oct4 and Nanog reporters like OAC1. OAC1 and its analogs OAC2 and OAC3 significantly enhance reprogramming efficiency by up to 2.75% and accelerate iPSC colony formation by 3 to 4 days[2].
Cell Research	The Oct4-luc or Nanog-luc cells are treated with compound OAC1 or its structural analogs OAC2, OAC3 at 1 μM concentration or at indicated concentrations. Other compounds used include 2 μM BIO, 2 μM BIX, 2 μM 5'-azacytidine, 25 μg/mL Vitamin C, 10 nM Am580, 5 μM tranilcypromine, and 0.5 mM valproic acid. Luciferase reporter assays are performed 24 h after compound treatment or at indicated time points. For Topflash reporter assays, 0.2 μg β-catenin-responsive Topflash reporter gene plasmid is introduced into CV1 cells using transfection. Compounds are added 6 h after transfection. Luciferase activity is measured 48 h after compound treatment using the Glo Luciferase Assay System[2].

## Solubility Information

Solubility	DMSO: 23.6 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 (8.46 mM), Sonication is recommended. <i>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.</i>

### Preparing Stock Solutions

---

	1mg	5mg	10mg
1 mM	4.2324 mL	21.1622 mL	42.3245 mL
5 mM	0.8465 mL	4.2324 mL	8.4649 mL
10 mM	0.4232 mL	2.1162 mL	4.2324 mL
50 mM	0.0846 mL	0.4232 mL	0.8465 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

Okuyama T, et al. Structural and mechanistic insights into nuclear transport and delivery of the critical pluripotency factor Oct4 to DNA. *J Biomol Struct Dyn*. 2017 Feb 6:1-50

Li W, et al. Identification of Oct4-activating compounds that enhance reprogramming efficiency. *Proc Natl Acad Sci U S A*. 2012 Dec 18;109(51):20853-8.

**Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins**

This product is for Research Use Only · Not for Human or Veterinary or Therapeutic Use

Tel:781-999-4286 E\_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481