OAC1

Catalog No.C12529 Batch:C1252903

Product Datasheet

Technical Data

Formula	$C_{14}H_{11}N_3O$					
Molecular Weight	237.26	**CAS No.**	300586-90-7			
Solubility (25°C)*	In vitro	DMSO	47 mg/mL (198.09 mM)			
		Ethanol	21 mg/mL (88.51 mM)			
		Water	Insoluble			
	In vivo (Add solvents to the product individually and in order)	Oral Administration	Homogeneous suspension	CMC-NA	≥5mg/ml	Taking the 1 mL working solution as an example, add 5 mg of this product to 1 ml of CMC-Na solution, mix evenly to obtain a homogeneous suspension with a final concentration of 5 mg/ml.
		Injection	Clear solution	5%DMSO [1] → 40%PEG300 [2] → 5%Tween80 [3] → 50%ddH2O Validated by Capsid Bio labs. Should you need adjustments to this formulation, contact our sales team for custom testing.	2.35mg/ml (9.90mM)	Taking the 1 mL working solution as an example, add 50 μL of 47 mg/ml clarified DMSO stock solution to 400 μL of PEG300, mix evenly to clarify it; add 50 μL of Tween80 to the above system, mix evenly to clarify; then continue to add 500 μL of ddH2O to adjust the volume to 1 mL. The mixed solution should be used immediately for optimal results.
			Clear solution	5% DMSO [1] → 95% Corn oil Validated by Capsid Bio labs. Should you need adjustments to this formulation, contact our sales team for custom testing.	0.235mg/ml (0.99mM)	Taking the 1 mL working solution as an example, add 50 μL of 4.7 mg/ml clear DMSO stock solution to 950 μL of corn oil and mix evenly. The mixed solution should be used immediately for optimal results.

* <1 mg/ml means slightly soluble or insoluble.
* Please note that Capsid Bio tests the solubility of all compounds in-house, and the actual solubility may differ slightly from published values. This is normal and is due to slight batch-to-batch variations.
* Room temperature shipping (Stability testing shows this product can be shipped at 2-8°C for storage purposes.)

Preparing Stock Solutions

Biological Activity

Description	OAC1 (Oct4-activating compound 1, BAS 00287861) can enhance the efficiency of reprogramming. This compound can activate both Oct4 and Nanog promoter-driven luciferase reporter genes.
Targets	Oct4 [1]
In vitro	OAC1 at 1 μM enhances reprogramming efficiency by activating both Oct4 and Nanog promoter-driven luciferase reporter genes. Furthermore, this compound enhances the pluripotent stem cells (iPSC) reprogramming efficiency and accelerates the reprogramming process in the quartet reprogramming factors (Oct4, Sox2, c-Myc, and Klf4) treated mouse embryonic fibroblasts (MEFs). The iPSC colonies derived using it along with the quartet factors exhibits typical ESC morphology, gene-expression pattern, and developmental potential. It seems to enhance reprogramming efficiency via increasing transcription of the Oct4-Nanog-Sox2 triad and Tet1, a gene known to be involved in DNA demethylation. While it doesn't inhibit the p53-p21 pathway or activate the Wnt-β-catenin signaling. This chemical may be used to enhance the reprogramming of somatic cells to a pluripotent state. [1]

Protocol (from reference)

Cell Assay:[1]

- **Cell lines**
  Human ESCs transfected with human Oct4 and Nanog luciferase reporter genes
- **Concentrations**
  ~1 μM
- **Incubation Time**
  24 h
- **Method**
  The Oct4-luc or Nanog-luc cells are treated with compound OAC1 at 1 μM concentration. Luciferase reporter assays are performed 24 h after this compound treatment.

References

https://pubmed.ncbi.nlm.nih.gov/23213213/

RETURN POLICY

Capsid Bio's Unconditional Return Policy ensures a smooth online shopping experience for our customers. If you are in any way unsatisfied with your purchase, you may return any item(s) within 7 days of receiving it. In the event of product quality issues, either protocol related or product related problems, you may return any item(s) within 365 days from the original purchase date. Please follow the instructions below when returning products.

SHIPPING & STORAGE

Capsid Bio products are transported at room temperature. If you receive the product at room temperature, please rest assured, the Capsid Bio Quality Inspection Department has conducted experiments to verify that the normal temperature placement of one month will not affect the biological activity of powder products. After collecting, please store the product according to the requirements described in the datasheet. Most Capsid Bio products are stable under the recommended conditions.

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