
Product Data Sheet

Product Name: O4I1
Cat. No.: GC12499

Chemical Properties

Cas. No. 175135-47-4

Chemical Name 2-(4-((4-methoxybenzyl)oxy)phenyl)acetonitrile

SMILES COC1=CC=C(COC2=CC=C(CC#N)C=C2)C=C1

Formula $C_{16}H_{15}NO_2$ M.Wt 253.3

Solubility DMF: 30 mg/ml, DMSO: 30 mg/ml, DMSO:PBS (pH 7.2)(1:5):
0.16 mg/ml, Ethanol: slightly Storage at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure

Background

O4I1 is a potent Oct3/4 inducer implicated in promoting the expression and stabilization of Oct3/4. O4I1 can enhance the transcriptional activity of Oct3/4 in a variety of human somatic cells. Oct3/4, also known as POU5F1 and Oct4, is a transcription factor which is essential for self-renewal and pluripotency of embryonic stem cells. Oct3/4 is specifically expressed in the ES cells, epiblast, preimplantation embryos, and germ cells, et al [1].

When treated the synthesized cDNA from RNA isolated from the HEK293 cells with 10 μM and 20 μM O4I1 for 72 hrs, the Oct3/4 mRNA levels increased about 2.5- and 4-fold respectively. In human adult primary fibroblast (HF) and human neonatal foreskin fibroblast (HFF) cell lines, treatment with 10 μM O4I1 increased the gene and protein expression level of Oct3/4 after 72 hrs incubation in HF cells and 7 days in HFF cells. The derivatives of O4I1 such as compound 2, showed a time-dependent activation of Oct3/4

Caution: Product has not been fully validated for medical applications. For research use only.

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and markedly elevated the efficiency of Oct3/4 induction [1].

Reference:

[1].Cheng X, Dimou E, Alborzinia H, et al. Identification of 2-[4-[(4-Methoxyphenyl) methoxy]-phenyl] acetonitrile and Derivatives as Potent Oct3/4 Inducers[J]. Journal of medicinal chemistry, 2015, 58(12): 4976-4983.

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