

Product Data Sheet

Product Name: OAC3
Cat. No.: GC10724

Chemical Properties

Cas. No. 182564-41-6

Chemical Name 4-fluoro-N-(1H-indol-5-yl)benzamide

SMILES O=C(C1=CC=C(C=C1)F)NC2=CC=CC3=NC=CC=C3

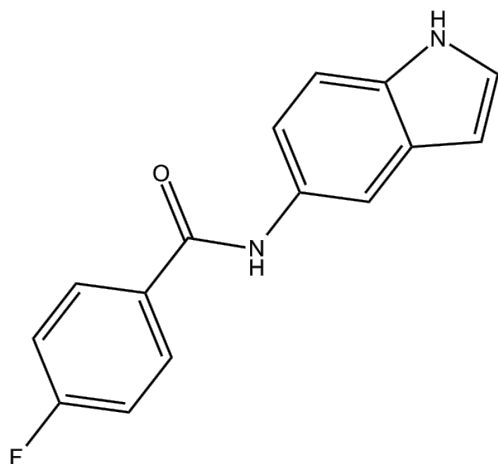
Formula $C_{15}H_{11}FN_2O$ M.Wt 254.26

Solubility DMF: 20 mg/ml, DMF:PBS(pH 7.2) (1:1): 0.50 mg/ml, DMSO: 16 mg/ml, Ethanol: 12.5 mg/ml
Storage Store 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

OAC3 is identified as an activator of octamer-binding transcription factor 4.

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

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Octamer-binding transcription factor 4 (Oct4), a key regulator of embryonic stem cell (ESC) pluripotency, is critical to the reprogramming process.

In vitro: OAC3 was shown to be able to activate both Oct4 and Nanog reporters to a similar extent as OAC1, which was its analog with greatest activating effects on both Oct4 and Nanog promoter-driven luciferase reporter genes. It was also found that both OAC1 and OAC3 could considerably enhance the 4F-induced reprogramming efficiency. Furthermore, OAC1 and OAC3 enhanced reprogramming efficiency four-fold, up to as high as 2.75%, and also accelerated the appearance of iPSC colonies 3 to 4 d when used in combination with the four reprogramming factors, which were Oct4, Sox2, Klf4, and c-Myc [1].

In vivo: In animal to test the in vivo pluripotency of the 4F+OAC2-induced iPSCs, which was another OAC3 analog, the 4F+OAC2-iPSCs were transplanted into immunodeficient Nude mice. Results showed that 4 to 6 weeks after transplantation, 4F+OAC2-iPSCs generated typical teratomas containing derivative of three germ layers effectively, such as epidermis of ectoderm, blood of mesoderm, and intestinal epithelia of endoderm [1].

Clinical trial: Up to now, OAC3 is still in the preclinical development stage.

Reference:

[1] Li W, Tian E, Chen ZX, Sun G, Ye P, Yang S, Lu D, Xie J, Ho TV, Tsark WM, Wang C, Horne DA, Riggs AD, Yip ML, Shi Y. Identification of Oct4-activating compounds that enhance reprogramming efficiency. Proc Natl Acad Sci U S A. 2012 Dec 18;109(51):20853-8.

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