

PRODUCT INFORMATION



OAC1

Item No. 14102

CAS Registry No.: 300586-90-7

Formal Name: N-1H-pyrrolo[2,3-c]pyridin-5-yl-benzamide

MF: C₁₄H₁₁N₃O

FW: 237.3

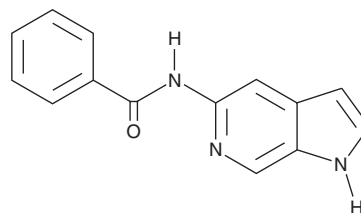
Purity: ≥98%

UV/Vis.: λ_{max}: 224, 260, 301 nm

Supplied as: A crystalline solid

Storage: -20°C

Stability: As supplied, 2 years from the QC date provided on the Certificate of Analysis, when stored properly



Laboratory Procedures

OAC1 is supplied as a crystalline solid. A stock solution may be made by dissolving the OAC1 in the solvent of choice. OAC1 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of OAC1 in these solvents is approximately 2.5, 10 and 20 mg/ml, respectively.

OAC1 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, OAC1 should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. OAC1 has a solubility of approximately 0.5 mg/ml in a 1:1 solution of 1:1:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Octamer-binding transcription factor 4 (Oct4) is a transcription factor that, with Sox2, KLF4, and c-Myc, is involved in the reprogramming of somatic cells to produce pluripotent stem cells.^{1,2} OAC1 is an Oct4-activating compound that activates expression through the Oct4 gene promoter.³ In cells expressing Oct4 with Sox2, KLF4, and c-Myc, OAC1 (1 μM) enhances reprogramming efficiency by increasing the rate of production of induced pluripotent stem cells (iPSCs) from embryonic fibroblasts.³ The iPSCs developed using OAC1 retain the capacity for pluripotent differentiation, whether evaluated *in vitro* or *in vivo*.³

References

1. Niwa, H., Miyazaki, J., and Smith, A.G. Quantitative expression of Oct-3/4 defines differentiation, dedifferentiation or self-renewal of ES cells. *Nat. Genet.* **24**(4), 372-376 (2000).
2. Takahashi, K., Tanabe, K., Ohnuki, M., *et al.* Induction of pluripotent stem cells from adult human fibroblasts by defined factors. *Cell* **131**, 861-872 (2007).
3. Li, W., Tian, E., Chen, Z.-X., *et al.* Identification of Oct4-activating compounds that enhance reprogramming efficiency. *Proc. Natl. Acad. Sci. USA* **109**(51), 20853-20858 (2012).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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