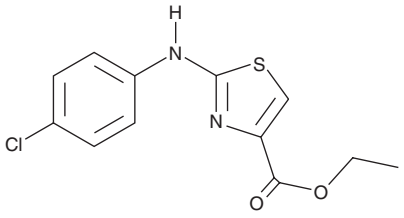
PRODUCT INFORMATION

O4I2

Item No. 19135

CAS Registry No.:	165682-93-9
Formal Name:	2-[(4-chlorophenyl)amino]-4-thiazolecarboxylic acid, ethyl ester
MF:	$C_{12}H_{11}ClN_2O_2S$
FW:	282.7
Purity:	≥98%
UV/Vis.:	λ_{max}: 276 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

O4I2 is supplied as a crystalline solid. A stock solution may be made by dissolving the O4I2 in the solvent of choice. O4I2 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of O4I2 in ethanol is approximately 20 mg/ml and approximately 30 mg/ml in DMSO and DMF.

O4I2 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, O4I2 should first be dissolved in DMF and then diluted with the aqueous buffer of choice. O4I2 has a solubility of approximately 0.12 mg/ml in a 1:7 solution of DMF: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 3/4 (Oct3/4) is a transcription factor that has key roles in early embryogenesis and embryonic stem cell pluripotency.[1,2] O4I2 is a potent inducer of Oct3/4 expression and translation in human cell lines, including embryonic kidney HEK293, embryonic placental NCCIT, and Oct-deficient HeLa cells.[3] It also induces Oct3/4 expression and translation in terminally differentiated human fibroblasts. Through this action, O4I2 promotes the expression of pluripotency-associated genes in human neonatal foreskin fibroblasts.[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. Cheng, X., Yoshida, H., Raoofi, D., *et al.* Ethyl 2-((4-Chlorophenyl)amino)thiazole-4-carboxylate and derivatives are potent inducers of Oct3/4. *J. Med. Chem.* **58(15)**, 5742-5750 (2015).

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