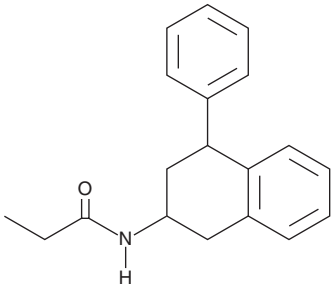
PRODUCT INFORMATION

4-P-PDOT

Item No. 17411

CAS Registry No.:	134865-74-0
Formal Name:	N-(1,2,3,4-tetrahydro-4-phenyl-2-naphthalenyl)-propanamide
Synonyms:	AH 024, *cis*-4-phenyl-2-Propionamidotetralin
MF:	$C_{19}H_{21}NO$
FW:	279.4
Purity:	≥98%
UV/Vis.:	λ_{max}: 262 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

4-P-PDOT is supplied as a crystalline solid. A stock solution may be made by dissolving the 4-P-PDOT in the solvent of choice, which should be purged with an inert gas. 4-P-PDOT is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of 4-P-PDOT in these solvents is approximately 5, 15, and 30 mg/ml, respectively.

4-P-PDOT is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, 4-P-PDOT should first be dissolved in DMF and then diluted with the aqueous buffer of choice. 4-P-PDOT has a solubility of approximately 0.1 mg/ml in a 1:9 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

4-P-PDOT is an antagonist of the melatonin 2 (MT_2) receptor (pK_i = 8.37) that displays 60-fold selectivity for MT_2 over MT_1.[1,2] 4-P-PDOT is used in cells, explants, and animals to elucidate the role of MT_2 in melatonin-mediated signaling.[3,4]

References

1. Browning, C., Beresford, I., Fraser, N., *et al.* Pharmacological characterization of human recombinant melatonin MT_1 and MT_2 receptors. *Br. J. Pharmacol.* **129(5)**, 877-886 (2000).
2. Dubocovich, M.L., Masana, M.I., Iacob, S., *et al.* Melatonin receptor antagonists that differentiate between the human Mel_{1a} and Mel_{1b} recombinant subtypes are used to assess the pharmacological profile of the rabbit retina ML_1 presynaptic heteroreceptor. *Naunyn Schmiedebergs Arch. Pharmacol.* **355(3)**, 365-375 (1997).
3. Juszczak, M., Wolak, M., Bojanowska, E., *et al.* The role of melatonin membrane receptors in melatonin-dependent oxytocin secretion from the rat hypothalamo-neurohypophysial system - an *in vitro* and *in vivo* approach. *Endokrynol. Pol.* **67(5)**, 507-514 (2016).
4. Shin, E.-J., Chung, Y.-H., TLe, H.-L.T., *et al.* Melatonin attenuates memory impairment induced by Klotho gene deficiency *via* interactive signaling between MT_2 receptor, ERK, and Nrf2-related antioxidant potential. *Int. J. Neuropsychopharmacol.* **18(6)** (2015).

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