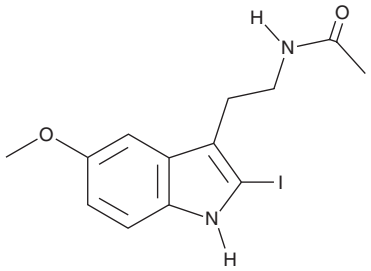
PRODUCT INFORMATION

2-Iodomelatonin

Item No. 19711

CAS Registry No.:	93515-00-5
Formal Name:	N-[2-(2-iodo-5-methoxy-1H-indol-3-yl)ethyl]-acetamide
MF:	$C_{13}H_{15}IN_2O_2$
FW:	358.2
Purity:	≥98%
UV/Vis.:	λ_{max}: 214, 279 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

2-Iodomelatonin is supplied as a crystalline solid. A stock solution may be made by dissolving the 2-iodomelatonin in the solvent of choice, which should be purged with an inert gas. 2-Iodomelatonin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of 2-iodomelatonin in ethanol is approximately 20 mg/ml and 30 mg/ml in DMSO and DMF.

2-Iodomelatonin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, 2-iodomelatonin should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. 2-Iodomelatonin has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

2-Iodomelatonin is a potent agonist of melatonin receptor 1 (MT_1; K_i = 28 pM) that is 5-fold selective for MT_1 over MT_2.[1,2] It inhibits forskolin-stimulated cAMP production in CHO cells expressing human MT_1 30-fold more potently than melatonin (Item No. 14427) with an EC_{50} value of 11 pM. 2-Iodomelatonin has been used to characterize the role of MT_1 in melatonin-mediated signaling.[3,4]

References

1. 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-Schmiedeberg's Arch. Pharmacol.* **355(3)**, 365-375 (1997).
2. 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).
3. Cecon, E., Chen, M., Marçola, M., *et al.* Amyloid β peptide directly impairs pineal gland melatonin synthesis and melatonin receptor signaling through the ERK pathway. *FASEB J.* **29(6)**, 2566-2582 (2015).
4. Adamah-Biassi, E.B., Zhang, Y., Jung, H., *et al.* Distribution of MT_1 melatonin receptor promoter-driven RFP expression in the brains of BAC C3H/HeN transgenic mice. *J. Histochem. Cytochem.* **62(1)**, 70-84 (2014).

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