

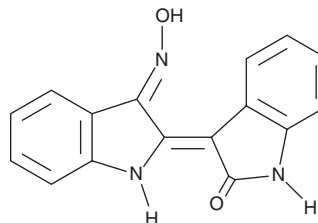
PRODUCT INFORMATION



Indirubin-3'-monoxime

Item No. 13314

CAS Registry No.: 160807-49-8
Formal Name: 3-[1,3-dihydro-3-(hydroxyimino)-2H-indol-2-ylidene]-1,3-dihydro-2H-indol-2-one
MF: C₁₆H₁₁N₃O₂
FW: 277.3
Purity: ≥98%
UV/Vis.: λ_{max}: 212, 252, 280, 286, 328, 342, 502 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

Indirubin-3'-monoxime is supplied as a crystalline solid. A stock solution may be made by dissolving the indirubin-3'-monoxime in the solvent of choice, which should be purged with an inert gas. Indirubin-3'-monoxime is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of indirubin-3'-monoxime in ethanol is approximately 2 mg/ml and approximately 10 mg/ml in DMSO and DMF.

Indirubin-3'-monoxime is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, indirubin-3'-monoxime should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Indirubin-3'-monoxime has a solubility of approximately 0.15 mg/ml in a 1:5 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Indirubin-3'-oxime is a potent inhibitor of glycogen synthase kinase 3β (GSK3β; IC₅₀ = 22 nM).¹ As GSK3β phosphorylates tau protein, indirubin-3'-oxime prevents tau phosphorylation both *in vitro* and *in vivo* at Alzheimer's disease-relevant sites.¹ It also inhibits cyclin-dependent kinases (CDKs) at higher concentrations, including Cdk1/cyclin B (IC₅₀ = 180 nM), Cdk2/cyclin A (IC₅₀ ~500 nM), Cdk2/cyclin E (IC₅₀ = 250nM), Cdk4/cyclin D1 (IC₅₀ = 3.3 μM) and Cdk5/p35 (IC₅₀ = 100 nM). Indirubin-3'-oxime reversibly inhibits the proliferation of many cells types, arresting cycling in the G₂/M phase.^{2,3}

References

1. LeClerc, S., Garnier, M., Hoessel, R., *et al.* Indirubins inhibit glycogen synthase kinase-3β and CDK5/P25, two protein kinases involved in abnormal tau phosphorylation in Alzheimer's disease. A property common to most cyclin-dependent kinase inhibitors? *J. Biol. Chem.* **276(1)**, 251-260 (2001).
2. Damiens, E., Baratte, B., Marie, D., *et al.* Anti-mitotic properties of indirubin-3'-monoxime, a CDK/GSK-3 inhibitor: Induction of endoreplication following prophase arrest. *Oncogene* **20(29)**, 3786-3797 (2001).
3. Marko, D., Schätzle, S., Friedel, A., *et al.* Inhibition of cyclin-dependent kinase 1 (CDK1) byindirubin derivatives in human tumour cells. *Br. J. Cancer* **84(2)**, 283-289 (2001).

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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