

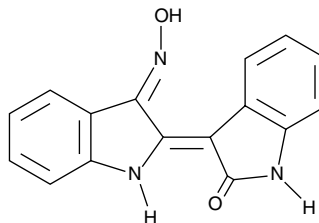
Product Information



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%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid
UV/Vis.: λ_{max}: 212, 252, 280, 286, 328, 342, 502 nm



Laboratory Procedures

For long term storage, we suggest that indirubin-3'-monoxime be stored as supplied at -20°C. It should be stable for at least two years.

Indirubin-3'-monoxime is supplied as a crystalline solid. A stock solution may be made by dissolving the indirubin-3'-monoxime in an organic solvent purged with an inert gas. Indirubin-3'-monoxime is soluble in organic solvents such as ethanol, DMSO, and dimethylformamide (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.

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 = 250 nM), 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**, 3786-3797 (2001).
3. Marko, D., Schätzle, S., Friedel, A., *et al.* Inhibition of cyclin-dependent kinase 1 (CDK1) by indirubin derivatives in human tumour cells. *Brit. J. Can.* **84**(2), 283-289 (2001).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/13314

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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