

PRODUCT INFORMATION



UCN-01

Item No. 18130

CAS Registry No.: 112953-11-4
Formal Name: (3R,9S,10R,11R,13R)-2,3,10,11,12,13-hexahydro-3-hydroxy-10-methoxy-9-methyl-11-(methylamino)-9,13-epoxy-1H,9H-diindolo[1,2,3-gh:3',2',1'-lm]pyrrolo[3,4-j][1,7]benzodiazonin-1-one NSC 638850, 7-hydroxy Staurosporine

Synonyms:

MF: C₂₈H₂₆N₄O₄

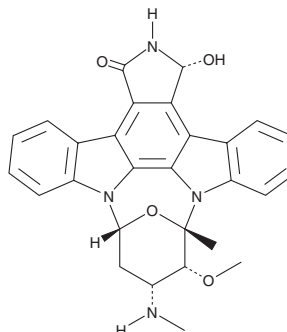
FW: 482.5

Purity: ≥95%

Supplied as: A solution in ethanol

Storage: -20°C

Stability: ≥2 years



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

Description

UCN-01 is a synthetic derivative of staurosporine (Item No. 81590) with antiproliferative activity against several *in vitro* and *in vivo* cancer models. It inhibits a variety of kinases, including Akt, protein kinase C (IC₅₀ = 30 nM), PDK1 (IC₅₀ = 6 nM) and cyclin-dependent kinases (IC₅₀s = 300-600 nM for Cdk1 and Cdk2).¹⁻³ UCN-01 arrests tumor cells in the G₁/S phase of the cell cycle and prevents nucleotide excision repair by inhibiting the G₂ checkpoint kinase Chk1 (IC₅₀ = 7 nM), leading to apoptosis.^{1,4-6}

References

1. Kawabe, T. G₂ checkpoint abrogators as anticancer drugs. *Mol. Cancer Ther.* **3(4)**, 513-519 (2004).
2. Peifer, C. and Alessi, D.R. Small-molecule inhibitors of PDK1. *ChemMedChem* **3(12)**, 1810-1838 (2008).
3. Yang, H.Y. and Neff, N.H. β-Phenylethylamine: A specific substrate for type B monoamine oxidase of brain. *J. Pharmacol. Exp. Ther.* **187(2)**, 365-371 (1973).
4. Wang, Q., Fan, S., Eastman, A., et al. UCN-01: A potent abrogator of G₂ checkpoint function in cancer cells with disrupted p53. *J. Natl. Cancer Inst.* **88(14)**, 956-965 (1996).
5. Yamauchi, T., Keating, M.J., and Plunkett, W. UCN-01 (7-hydroxystaurosporine) inhibits DNA repair and increases cytotoxicity in normal lymphocytes and chronic lymphocytic leukemia lymphocytes. *Mol. Cancer Ther.* **1**, 287-294 (2002).
6. Facchinetti, M.M., De Siervi, A., Toskos, D., et al. UCN-01-induced cell cycle arrest requires the transcriptional induction of p21waf1/cip1 by activation of mitogen-activated protein/extracellular signal-regulated kinase kinase/extracellular signal-regulated kinase pathway. *Cancer Res.* **64**, 3629-3637 (2004).

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.

WARRANTY AND LIMITATION OF REMEDY

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