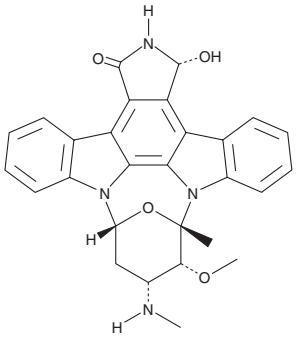
PRODUCT INFORMATION

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
Synonyms: NSC 638850, 7-hydroxy Staurosporine
MF: $C_{28}H_{26}N_4O_4$
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 (IC_{50} = 30 nM), PDK1 (IC_{50} = 6 nM) and cyclin-dependent kinases (IC_{50}s = 300-600 nM for Cdk1 and Cdk2).[1-3] UCN-01 arrests tumor cells in the G_1/S phase of the cell cycle and prevents nucleotide excision repair by inhibiting the G_2 checkpoint kinase Chk1 (IC_{50} = 7 nM), leading to apoptosis.[1,4-6]

References

1. Kawabe, T. G_2 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 G_2 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).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM