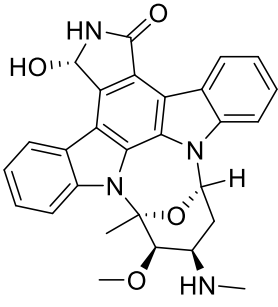


Product data sheet



MedKoo Cat#: 203060 Name: KRX-0601 CAS: 112953-11-4 Chemical Formula: C ₂₈ H ₂₆ N ₄ O ₄ Exact Mass: 482.1954 Molecular Weight: 482.54	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years. In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:

KRX-0601, also known as UCN-01, is a synthetic derivative of staurosporine with antineoplastic activity. 7-hydroxystaurosporine inhibits many phosphokinases, including the serine/threonine kinase AKT, calcium-dependent protein kinase C, and cyclin-dependent kinases. This agent arrests tumor cells in the G1/S of the cell cycle and prevents nucleotide excision repair by inhibiting the G2 checkpoint kinase chk1, resulting in apoptosis. Check for active clinical trials or closed clinical trials using this agent. (NCI Thesaurus).

2. CoA, QC data, SDS, and handling instruction

SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under “QC And Documents” section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMSO	5.0	10.36
Ethanol	1.0	2.07

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.07 mL	10.36 mL	20.72 mL
5 mM	0.41 mL	2.07 mL	4.14 mL
10 mM	0.21 mL	1.04 mL	2.07 mL
50 mM	0.04 mL	0.21 mL	0.41 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator

Please refer the product web page under section of “Calculator”

6. Recommended literature which reported protocols for in vitro and in vivo study

In vitro study

- Lien WC, Chen TY, Sheu SY, Lin TC, Kang FC, Yu CH, Kuan TS, Huang BM, Wang CY. 7-hydroxy-staurosporine, UCN-01, induces DNA damage response, and autophagy in human osteosarcoma U2-OS cells. *J Cell Biochem.* 2018 Jun;119(6):4729-4741. doi: 10.1002/jcb.26652. Epub 2018 Feb 28. PMID: 29280173.
- Alcántara-Hernández R, Hernández-Méndez A, García-Sáinz JA. The phosphoinositide-dependent protein kinase 1 inhibitor, UCN-01, induces fragmentation: possible role of metalloproteinases. *Eur J Pharmacol.* 2014 Oct 5;740:88-96. doi: 10.1016/j.ejphar.2014.06.057. Epub 2014 Jul 10. PMID: 25016091.

In vivo study

- Mull BB, Livingston JA, Patel N, Bui T, Hunt KK, Keyomarsi K. Specific, reversible G1 arrest by UCN-01 in vivo provides cytostatic protection of normal cells against cytotoxic chemotherapy in breast cancer. *Br J Cancer.* 2020 Mar;122(6):812-822. doi: 10.1038/s41416-019-0707-z. Epub 2020 Jan 16. PMID: 31942030; PMCID: PMC7078276.

Product data sheet



2. Dudgeon C, Wang P, Sun X, Peng R, Sun Q, Yu J, Zhang L. PUMA induction by FoxO3a mediates the anticancer activities of the broad-range kinase inhibitor UCN-01. *Mol Cancer Ther.* 2010 Nov;9(11):2893-902. doi: 10.1158/1535-7163.MCT-10-0635. Epub 2010 Oct 26. PMID: 20978166; PMCID: PMC2978764.

7. Bioactivity

Biological target:

A nonspecific protein kinase inhibitor.

In vitro activity

UCN-01 induced cell cycle arrest and apoptosis in the human osteosarcoma, U2-OS cells. In addition, the migration ability was also reduced, suggesting UCN-01 inhibited cell growth and migration.

Reference: *J Cell Biochem.* 2018 Jun;119(6):4729-4741. <https://pubmed.ncbi.nlm.nih.gov/29280173/>

In vivo activity

UCN-01 causes significant, reversible arrest of normal gut epithelial cells at 24 h; this arrest persists for up to 7 days. Normal cellular proliferation returns by 2 weeks. Pre-treatment of both non-tumour-bearing and MDA-MB-468 tumour-bearing mice with UCN-01 prior to bolus 5-FU (450 mg/kg) yielded enhanced therapeutic efficacy with significantly decreased tumour volumes and increased survival.

Reference: *Br J Cancer.* 2020 Mar;122(6):812-822. <https://pubmed.ncbi.nlm.nih.gov/31942030/>

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.