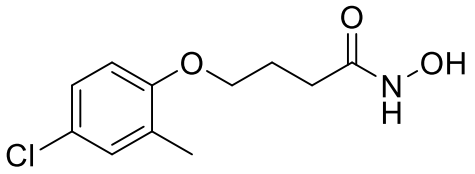
Product data sheet

MedKoo Cat#: 401430 Name: Droxinostat CAS: 99873-43-5 Chemical Formula: $C_{11}H_{14}ClNO_3$ Exact Mass: 243.0662 Molecular Weight: 243.6870	
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:
Droxinostat, also known as NS 41080, is a selective inhibitor of HDAC3, HDAC6, and HDAC8. Droxinostat shows comparable inhibition of HDAC6 and HDAC8 (IC50 = 2.47 and 1.46 μmol/L, respectively).

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
DMF	30.0	123.11
DMSO	76.33	313.24
Ethanol	39.5	162.09
Ethanol:PBS (pH 7.2) (1:20)	0.05	0.21

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	4.10 mL	20.52 mL	41.04 mL
5 mM	0.82 mL	4.10 mL	8.21 mL
10 mM	0.41 mL	2.05 mL	4.10 mL
50 mM	0.08 mL	0.41 mL	0.82 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

1. Liu J, Li G, Wang X, Wang L, Zhao R, Wang J, Kong Y, Ding J, Li J, Zhang L. Droxinostat, a Histone Deacetylase Inhibitor, Induces Apoptosis in Hepatocellular Carcinoma Cell Lines via Activation of the Mitochondrial Pathway and Downregulation of FLIP. Transl Oncol. 2016 Feb;9(1):70-78. doi: 10.1016/j.tranon.2016.01.004. PMID: 26947884; PMCID: PMC4800063.
2. Wood TE, Dalili S, Simpson CD, Sukhai MA, Hurren R, Anyiwe K, Mao X, Suarez Saiz F, Gronda M, Eberhard Y, MacLean N, Ketela T, Reed JC, Moffat J, Minden MD, Batey RA, Schimmer AD. Selective inhibition of histone deacetylases sensitizes malignant cells to death receptor ligands. Mol Cancer Ther. 2010 Jan;9(1):246-56. doi: 10.1158/1535-7163.MCT-09-0495. Epub 2010 Jan 6. PMID: 20053768.

In vivo study

1. Konikov-Rozenman J, Breuer R, Kaminski N, Wallach-Dayan SB. CMH-Small Molecule Docks into SIRT1, Elicits Human IPF-Lung Fibroblast Cell Death, Inhibits Ku70-deacetylation, FLIP and Experimental Pulmonary Fibrosis. Biomolecules. 2020 Jul 2;10(7):997. doi: 10.3390/biom10070997. PMID: 32630842; PMCID: PMC7408087.

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7. Bioactivity

Biological target:

Droxinostat (NS 41080) is a histone deacetylase (HDAC) inhibitor.

In vitro activity

Droxinostat inhibited proliferation and colony formation of the HCC cell lines examined. Droxinostat suppresses HDAC3 expression and induces histone acetylation and HCC cell death through activation of the mitochondrial apoptotic pathway and downregulation of FLIP, supporting its potential application in the treatment of HCC.

Reference: Transl Oncol. 2016 Feb;9(1):70-78. https://pubmed.ncbi.nlm.nih.gov/26947884/

In vivo activity

A semi-quantitative index (SMI) shows that CMH (droxinostat) attenuated lung fibrosis in mice from an index of SMI equals 2 to only 1.1 (Figure 4E), and collagen in Sircoll assay decreased from 200 µg to only 50 µg per lobe (Figure 4F). Thus, CMH shows inhibition of Ku70-deacetylation that may stabilize FLIP and Ku70/FLIP complex in lung myofibroblasts promoting fibrosis, which can be associated to inhibition of SIRT1.

Reference: Biomolecules. 2020 Jul 2;10(7):997. https://pubmed.ncbi.nlm.nih.gov/32630842/

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.