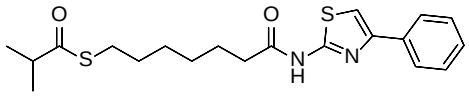
Product data sheet

MedKoo Cat#: 406733 Name: NCH-51 CAS: 848354-66-5 Chemical Formula: $C_{20}H_{26}N_2O_2S_2$ Exact Mass: 390.1436 Molecular Weight: 390.56	
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:
NCH-51, also known as PTACH, is a histone deacetylase (HDAC) inhibitor. NCH-51 tnhibits growth of various cancer cells in vitro (EC50 = 1.1 - 9.1 μM). NCH-51 could inhibit the cell growth of a variety of lymphoid malignant cells through apoptosis induction, more effectively than SAHA. NCH-51 upregulated anti-oxidant molecules including peroxiredoxin 1 and 2 and glutathione S-transferase at the protein level. NCH-51 exhibits cytotoxicity by sustaining ROS at the higher level greater than SAHA.

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	76.81
DMSO	40.0	102.42
DMSO:PBS (pH 7.2) (1:1)	0.5	1.28
Ethanol	10.0	25.60

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.56 mL	12.80 mL	25.60 mL
5 mM	0.51 mL	2.56 mL	5.12 mL
10 mM	0.26 mL	1.28 mL	2.56 mL
50 mM	0.05 mL	0.26 mL	0.51 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. Victoriano AF, Imai K, Togami H, Ueno T, Asamitsu K, Suzuki T, Miyata N, Ochiai K, Okamoto T. Novel histone deacetylase inhibitor NCH-51 activates latent HIV-1 gene expression. FEBS Lett. 2011 Apr 6;585(7):1103-11. doi: 10.1016/j.febslet.2011.03.017. Epub 2011 Mar 12. PMID: 21402072.

2. Sanda T, Okamoto T, Uchida Y, Nakagawa H, Iida S, Kayukawa S, Suzuki T, Oshizawa T, Suzuki T, Miyata N, Ueda R. Proteome analyses of the growth inhibitory effects of NCH-51, a novel histone deacetylase inhibitor, on lymphoid malignant cells. Leukemia. 2007 Nov;21(11):2344-53. doi: 10.1038/sj.leu.2404902. Epub 2007 Aug 9. PMID: 17690692.

In vivo study

TBD

Product data sheet

7. Bioactivity

Biological target:

PTACH (NCH-51) is a potent HDAC inhibitor with IC_{50}s of 48 nM, 32 nM, and 41 nM for HDAC1, HDAC4, and HDAC6.

In vitro activity

The novel histone deacetylase inhibitor NCH-51 induced expression of latent HIV-1 with minimal cytotoxicity. Using chromatin immunoprecipitation assays, this study observed a reduction of HDAC1 occupancy, histone hyperacetylation and the recruitment of positive transcription factors at the HIV-1 promoter in latently infected-cells under the treatment with NCH-51. Mutation studies of the long terminal repeat (LTR) revealed NCH-51 mediated gene expression through the Sp1 sites. When Sp1 expression was knocked-down by small interfering RNA, the NCH-51-mediated activation of a stably integrated HIV-1 LTR was attenuated.

Reference: FEBS Lett. 2011 Apr 6;585(7):1103-11. https://pubmed.ncbi.nlm.nih.gov/21402072/

In vivo activity

TBD

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.