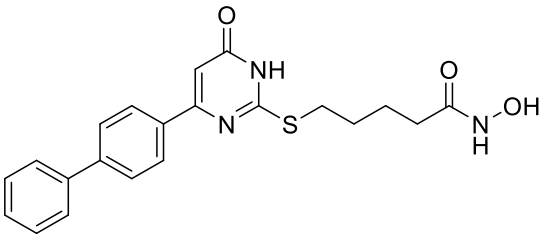
Product data sheet

MedKoo Cat#: 406658 Name: MC1742 CAS: 1776116-74-5 Chemical Formula: $C_{21}H_{21}N_3O_3S$ Exact Mass: 395.1304 Molecular Weight: 395.477	
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:
MC1742 is a novel and selective HDAC inhibitor with potential anticancer activity. Musculoskeletal sarcomas are aggressive malignancies of bone and soft tissues often affecting children and adolescents. Histone deacetylase inhibitors (HDACi) have been proposed to counteract cancer stem cells (CSCs) in solid neoplasms. When tested in human osteosarcoma, rhabdomyosarcoma, and Ewing's sarcoma stem cells, the new HDACi MC1742 increased acetyl-H3 and acetyl-tubulin levels and inhibited CSC growth by apoptosis induction. At nontoxic doses, 1 promoted osteogenic differentiation. (copied from J Med Chem. 2015 Apr 30. [Epub ahead of print].

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	39.55	100.0

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.53 mL	12.64 mL	25.29 mL
5 mM	0.51 mL	2.53 mL	5.06 mL
10 mM	0.25 mL	1.26 mL	2.53 mL
50 mM	0.05 mL	0.25 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. Mouveaux T, Rotili D, Boissavy T, Roger E, Pierrot C, Mai A, Gissot M. A potent HDAC inhibitor blocks Toxoplasma gondii tachyzoite growth and profoundly disrupts parasite gene expression. Int J Antimicrob Agents. 2022 Mar;59(3):106526. doi: 10.1016/j.ijantimicag.2022.106526. Epub 2022 Jan 15. PMID: 35041939.
2. Di Pompo G, Salerno M, Rotili D, Valente S, Zwergel C, Avnet S, Lattanzi G, Baldini N, Mai A. Novel histone deacetylase inhibitors induce growth arrest, apoptosis, and differentiation in sarcoma cancer stem cells. J Med Chem. 2015 May 14;58(9):4073-9. doi: 10.1021/acs.jmedchem.5b00126. Epub 2015 Apr 30. PMID: 25905694.

In vivo study
TBD

7. Bioactivity
Biological target:

Product data sheet

MC1742 is a potent HDAC inhibitor, with IC_{50}s of 0.1 μM, 0.11 μM, 0.02 μM, 0.007 μM, 0.61 μM, 0.04 μM and 0.1 μM for HDAC1, HDAC2, HDAC3, HDAC6, HDAC8, HDAC10 and HDAC11.

In vitro activity

When tested in human osteosarcoma, rhabdomyosarcoma, and Ewing's sarcoma stem cells, the new HDACi MC1742 (1) and MC2625 (2) increased acetyl-H3 and acetyl-tubulin levels and inhibited CSC growth by apoptosis induction. At nontoxic doses, 1 promoted osteogenic differentiation.

Reference: J Med Chem. 2015 May 14;58(9):4073-9. https://pubmed.ncbi.nlm.nih.gov/25905694/

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.