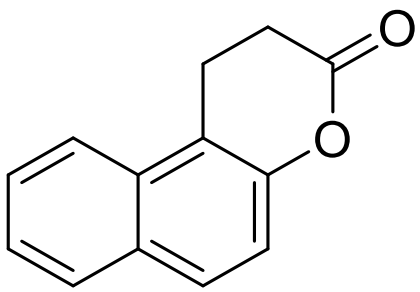
Product data sheet

MedKoo Cat#: 406571 Name: Splitomicin CAS#: 5690-03-9 Chemical Formula: $C_{13}H_{10}O_2$ Exact Mass: 198.0681 Molecular Weight: 198.22	
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:
Splitomicin is a cell-permeable lactone derived from naphthol and known to be a potent selective inhibitor of Sir2 (silent information regulator 2) and HDAC. Splitomicin inhibits the NAD+-dependent deacetylase activity of Sir2 in vitro. It increases the levels of cyclic AMP by inhibiting the activity of cyclic AMP phosphodiesterase, interferes with mobilization of intracellular Ca+2 and ATP release.

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	15	75.67
DMSO	20	100.90
Ethanol	15	75.67

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	**1 mg**	**5 mg**	**10 mg**
1 mM	5.04 mL	25.22 mL	50.45 mL
5 mM	1.01 mL	5.04 mL	10.09 mL
10 mM	0.50 mL	2.52 mL	5.04 mL
50 mM	0.10 mL	0.50 mL	1.01 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. Park JA, Park S, Park WY, Han MK, Lee Y. Splitomicin, a SIRT1 Inhibitor, Enhances Hematopoietic Differentiation of Mouse Embryonic Stem Cells. Int J Stem Cells. 2019 Mar 30;12(1):21-30. doi: 10.15283/ijsc18040. PMID: 30836727; PMCID: PMC6457709.
2. Liu FC, Day YJ, Liou JT, Yu HP, Liao HR. Splitomicin inhibits fMLP-induced superoxide anion production in human neutrophils by activate cAMP/PKA signaling inhibition of ERK pathway. Eur J Pharmacol. 2012 Aug 5;688(1-3):68-75. doi: 10.1016/j.ejphar.2012.05.006. Epub 2012 May 23. PMID: 22634165.

In vivo study

To be determined

7. Bioactivity
Biological target:

Splitomicin is a Sir2p histone deacetylase activity inhibitor, displaying higher activity in vivo (minimal inhibitory concentration = 0.49 μM) than in vitro (IC50 = 60 μM). Splitomicin has diverse effects on mammalian cells.

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In vitro activity

Targeting SIRT1 activity, with compounds such as splitomicin, during embryonic stem (ES) cell differentiation could be a promising strategy to improve the efficiency of hematopoietic lineage differentiation. The inhibitors nicotinamide and splitomicin enhanced the production of hematopoietic progenitors and mildly upregulated erythroid and myeloid-specific gene expression. Notably, splitomicin treatment led to an increase in the percentage of erythroid and myeloid lineage cells.

Reference: Int J Stem Cells. 2019 Mar 30;12(1):21-30. https://pubmed.ncbi.nlm.nih.gov/30836727/

In vivo activity

To be determined

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.