Salermide

Cat. No.: HY-101073

CAS No.: 1105698-15-4

Molecular Formula: $C_{26}H_{22}N_2O_2$

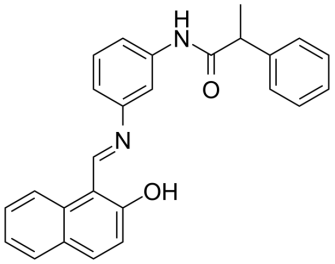
Molecular Weight: 394.47

Target: Sirtuin; Apoptosis

Pathway: Cell Cycle/DNA Damage; Epigenetics; Apoptosis

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	2 years
	-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 50 mg/mL (126.75 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.5350 mL	12.6752 mL	25.3505 mL
5 mM	0.5070 mL	2.5350 mL	5.0701 mL
10 mM	0.2535 mL	1.2675 mL	2.5350 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (6.34 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Salermide is an inhibitor of Sirt1 and Sirt2; can cause strong cancer-specific apoptotic cell death.

IC_{50} & Target

SIRT1	SIRT2

In Vitro

Salermide shows a dose-dependent inhibition that rises to 80% at 90 μM and 25 μM against Sirt1 and Sirt2, respectively. Salermide can prompt tumour-specific cell death in a wide range of human cancer cell lines derived from leukaemia (MOLT4, KG1A, K562), lymphoma (Raji), colon (SW480) and breast (MDA-MB-231). Incubation with 100 μM Salermide alone resulted in an increase of cytosolicactivated caspase 3 and a decrease of mitochondrialcytochrome. Salermide alone can induce apoptosis through both extrinsic and intrinsic pathways. Salermide had several antitumorigenic advantages over the earlier described class III HDAC inhibitors: firstly, it mimics the universal proapoptotic effect on cancer samples exhibited by the classical class I, II and IV HDAC inhibitors, and secondly, its proapoptotic effect is cancer-specific[1].

	MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Salermide is well tolerated by mice at concentrations up to 100 μM. Salermide's mechanism of action in vivo is specifically mediated by Sirt1. Intraperitoneal feeding of Salermide has no apparent toxicity in nude mice[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Cell Assay [1]	Cell lines (SW480, MDA-MB-231, MOLT4, KG1A, K562 and Raji) are used in the study. Cell viability is determined using the 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide assay. IC_{50} index is calculated using four Salermide concentrations (25, 50, 75 and 100 μM) for 24 h. The percentage of apoptotic cells is determined with the FACSCalibur apparatus[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
Animal Administration [1]	Mice: To assess possible adverse effects of Salermide in vivo. To do this, a group of 10 nude mice are intraperitoneal injected 100 μL of 100 μM of Salermide to over 34 days. Diet consumption, body-weight gain, and postural and behavioural changes are monitored throughout the study[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Mol Cell Proteomics. 2019 Mar;18(3):520-533.
- J Cell Mol Med. 2020 Jan;24(1):488-510.

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REFERENCES

[1]. Lara E, et al. Salermide, a Sirtuin inhibitor with a strong cancer-specific proapoptotic effect. Oncogene. 2009 Feb 12;28(6):781-91.

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