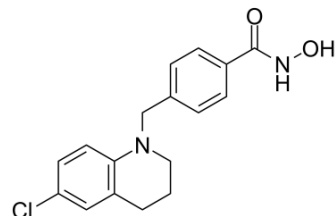


SW-100

Cat. No.:	HY-115475		
CAS No.:	2126744-35-0		
Molecular Formula:	C ₁₇ H ₁₇ ClN ₂ O ₂		
Molecular Weight:	316.78		
Target:	HDAC		
Pathway:	Cell Cycle/DNA Damage; Epigenetics		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 125 mg/mL (394.60 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	3.1568 mL	15.7838 mL	31.5676 mL
	5 mM	0.6314 mL	3.1568 mL	6.3135 mL
	10 mM	0.3157 mL	1.5784 mL	3.1568 mL

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

In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
Solubility: ≥ 2.08 mg/mL (6.57 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
Solubility: ≥ 2.08 mg/mL (6.57 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
Solubility: ≥ 2.08 mg/mL (6.57 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

SW-100, a selective histone deacetylase 6 (HDAC6) inhibitor with an IC₅₀ of 2.3 nM, shows at least 1000-fold selectivity for HDAC6 relative to all other HDAC isozymes. SW-100 displays a significantly improved ability to cross the blood-brain-barrier [1].

IC₅₀ & Target

HDAC1	HDAC2	HDAC3	HDAC4
5.23 μM (IC ₅₀)	32.8 μM (IC ₅₀)	29.5 μM (IC ₅₀)	10.9 μM (IC ₅₀)

	HDAC5 4.07 μ M (IC ₅₀)	HDAC6 2.3 nM (IC ₅₀)	HDAC7 4.55 μ M (IC ₅₀)	HDAC8 3.72 μ M (IC ₅₀)								
	HDAC9 3.46 μ M (IC ₅₀)	HDAC10 26.2 μ M (IC ₅₀)	HDAC11 5.72 μ M (IC ₅₀)									
In Vitro	<p>SW-100 (0.01-10 μM; 48 hours) shows obvious increase in the acetylated α-tubulin levels in a dose-dependent manner^[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <p>Western Blot Analysis^[1]</p> <table border="1"> <tbody> <tr> <td>Cell Line:</td> <td>HEK293 cells</td> </tr> <tr> <td>Concentration:</td> <td>0.01, 0.1, 1, 10 μM</td> </tr> <tr> <td>Incubation Time:</td> <td>48 hours</td> </tr> <tr> <td>Result:</td> <td>Showed obvious increase in the acetylated α-tubulin levels in a dose-dependent manner.</td> </tr> </tbody> </table>				Cell Line:	HEK293 cells	Concentration:	0.01, 0.1, 1, 10 μ M	Incubation Time:	48 hours	Result:	Showed obvious increase in the acetylated α -tubulin levels in a dose-dependent manner.
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Result:	Showed obvious increase in the acetylated α -tubulin levels in a dose-dependent manner.											
In Vivo	<p>SW-100 (20 mg/kg; i.p.; twice a day for two days) ameliorates several memory and learning impairments including novel object recognition, temporal ordering, and coordinate and categorical spatial processing in mouse model of Fragile X syndrome^[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <table border="1"> <tbody> <tr> <td>Animal Model:</td> <td>8-10 weeks old C57BL/6 mice (Fmr1^{-/-} mice)^[1]</td> </tr> <tr> <td>Dosage:</td> <td>20 mg/kg</td> </tr> <tr> <td>Administration:</td> <td>Intraperitoneal injection; twice a day for two days</td> </tr> <tr> <td>Result:</td> <td>Ameliorated several memory and learning impairments including novel object recognition, temporal ordering, and coordinate and categorical spatial processing in Fmr1^{-/-} mice</td> </tr> </tbody> </table>				Animal Model:	8-10 weeks old C57BL/6 mice (Fmr1 ^{-/-} mice) ^[1]	Dosage:	20 mg/kg	Administration:	Intraperitoneal injection; twice a day for two days	Result:	Ameliorated several memory and learning impairments including novel object recognition, temporal ordering, and coordinate and categorical spatial processing in Fmr1 ^{-/-} mice
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REFERENCES

[1]. Kozikowski AP, et al. Brain Penetrable Histone Deacetylase 6 Inhibitor SW-100 Ameliorates Memory and Learning Impairments in a Mouse Model of Fragile X Syndrome. ACS Chem Neurosci. 2019 Mar 20;10(3):1679-1695.

Caution: Product has not been fully validated for medical applications. For research use only.

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