SRT 2104

Cat. No.: HY-15262

CAS No.: 1093403-33-8

Molecular Formula: $C_{26}H_{24}N_6O_2S_2$

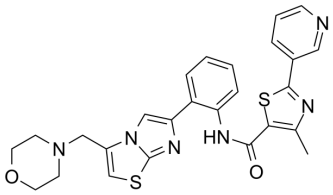
Molecular Weight: 516.64

Target: Sirtuin

Pathway: Cell Cycle/DNA Damage; Epigenetics

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	1 year
	-20°C	6 months



SOLVENT & SOLUBILITY

In Vitro

DMSO : 5 mg/mL (9.68 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	1.9356 mL	9.6779 mL	19.3558 mL
	5 mM	0.3871 mL	1.9356 mL	3.8712 mL
	10 mM	---	---	---

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 0.5 mg/mL (0.97 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 0.5 mg/mL (0.97 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

SRT 2104 is a first-in-class, highly selective and brain-permeable activator of the NAD^+ dependent deacetylase Sirt1, increases Sirt1 protein, but shows no effect on Sirt1 mRNA. Used in the research of diabetes mellitus and Huntington's disease[1][2][3].

IC_{50} & Target

SIRT1

In Vivo

SRT 2104 (100 mg/kg/day, supplemented in diet for 24 weeks) increases SIRT1 protein without altering Sirt1 mRNA in diabetic mice[2].

SRT 2104 (100 mg/kg/day, supplemented in diet for 24 weeks) decreases testicular oxidative stress, activation of apoptotic signaling, and ER stress in diabetic mice[2].

SRT 2104 (0.5%; for 18 weeks) improves motor function and increases survival in N171-82Q HD mice[3].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Male C57BL/6 mice (8-week-old)[2]
Dosage:	100 mg/kg/day
Administration:	Supplemented in diet for 24 weeks
Result:	Enhanced SIRT1 protein without evelating Sirt1 mRNA level. Attenuated diabetes mellitus (DM)-induced oxidative stress, apoptotic signaling, and ER stress.

Animal Model:	WT and N171-82Q HD mice (6 weeks old)[3]
Dosage:	0.5%
Administration:	0.5% SRT 2104 containing diet for 6, 12, 18 weeks
Result:	Ameliorated motor deficits and increased survival in N171-82Q HD mice.

CUSTOMER VALIDATION

- Neural Regen Res. 2021;16:2465-74.
- Int J Mol Sci. 2023 Jul 6, 24(13), 11135.
- Int J Mol Sci. 2023 Apr 9, 24(8), 6968.
- Biomolecules. 2022 Mar 9;12(3):422.
- Biochim Biophys Acta Mol Cell Res. 2019 Aug;1866(8):1272-1281.

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REFERENCES

[1]. Hoffmann E, et al. Pharmacokinetics and tolerability of SRT2104, a first-in-class small molecule activator of SIRT1, after single and repeated oral administration in man.

[2]. Jiao D, et al. MicroRNA-34a targets sirtuin 1 and leads to diabetes-induced testicular apoptotic cell death. J Mol Med (Berl). 2018 Sep;96(9):939-949.

[3]. Jiang M, et al. Sirtuin 1 activator SRT2104 protects Huntington's disease mice. Ann Clin Transl Neurol. 2014 Dec;1(12):1047-52.

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