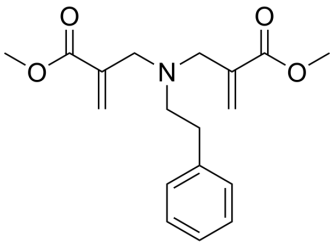
SPC-180002

Cat. No.:	HY-155784
CAS No.:	2170274-53-8
Molecular Formula:	$C_{18}H_{23}NO_4$
Molecular Weight:	317.38
Target:	Sirtuin; Reactive Oxygen Species; Keap1-Nrf2
Pathway:	Cell Cycle/DNA Damage; Epigenetics; Immunology/Inflammation; Metabolic Enzyme/Protease; NF-κB
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	SPC-180002 is a SIRT1/3 dual inhibitor, with IC_{50} values of 1.13 and 5.41 μM, respectively. SPC-180002 disturbs redox homeostasis via ROS generation, which leads to an increase in both p21 protein stability and mitochondrial dysfunction. SPC-180002 strongly inhibits cell cycle progression and cancer cell growth. SPC-180002 activates the Nrf2 signaling pathway [1].

IC_{50} & Target	SIRT1	SIRT3
	1.13 ± 0.3 μM (IC_{50})	5.41 ± 4.8 μM (IC_{50})

In Vitro

SPC-180002 (0-5 μM, 24 h) inhibits cell cycle progression via p21 accumulation, which causes subsequent cellular senescence[1].

SPC-180002 dose not induce apoptosis and autophagy[1].

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

In Vivo

SPC-180002 (1-5mg/kg, twice a week, i.p.) inhibits the growth of various cancer cells and impedes tumor growth in MCF7 tumor xenograft[1].

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

Animal Model:	Five weeks female athymic nude mice (BALB/c)[1]
Dosage:	1 mg/kg or 5 mg/kg
Administration:	i.p., twice a week
Result:	Significantly impeded tumor progression. The gain of tumor volume in SPC-180002-treated mice was significantly reduced by 48% at the low dose (1 mg/kg) and by 52% at the high dose (5 mg/kg), compared to vehicle-treated mice.

REFERENCES

[1]. Cho Y, et al. SPC-180002, a SIRT1/3 dual inhibitor, impairs mitochondrial function and redox homeostasis and represents an antitumor activity. Free Radic Biol Med.

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