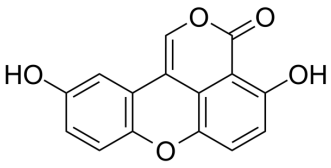
Sparstolonin B

Cat. No.:	HY-116213
CAS No.:	1259330-61-4
Molecular Formula:	$C_{15}H_8O_5$
Molecular Weight:	268.22
Target:	Toll-like Receptor (TLR); HIV
Pathway:	Immunology/Inflammation; Anti-infection
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 : 10 mg/mL (37.28 mM; Need ultrasonic and warming)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	3.7283 mL	18.6414 mL	37.2828 mL
	5 mM	0.7457 mL	3.7283 mL	7.4566 mL
	10 mM	0.3728 mL	1.8641 mL	3.7283 mL

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

In Vivo

1. Add each solvent one by one: 0.5% CMC-Na/saline water
   Solubility: 5 mg/mL (18.64 mM); Suspended solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

Sparstolonin B acts as a selective TLR2 and TLR4 antagonist and selectively blocks TLR2- and TLR4-mediated inflammatory signaling. Sparstolonin B has anti-HIV and anticancer activities[1][2].

IC_{50} & Target	TLR2	TLR4	HIV-1

In Vitro

Sparstolonin B (1-20 μM; 2-4 days) inhibits cell growth and viability of neuroblastoma cells[3].
Sparstolonin B inhibits TLR ligand-induced cytokine expression in mouse macrophages. Sparstolonin B inhibits MyD88 recruitment to TLR4 and TLR2[1].
Sparstolonin B generates reactive oxygen species (ROS) in neuroblastoma cells. Sparstolonin B reduces expression of N-myc in neuroblastoma cells[3].

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

Cell Viability Assay[3]

Cell Line:	SH-SY5Y, IMR-32, NGP, SKNF-1 and SK-N-BE(2) cells
Concentration:	1 μM, 5 μM, 10 μM or 20 μM
Incubation Time:	2-4 days
Result:	Effectively and dose-dependently inhibits the viability of all neuroblastoma cell lines after 2 days (SH-SY5Y and IMR-32), 3 days (NGP cells) or 4 days (SKNF-1 and SK-N-BE(2) cells) treatment.

In Vivo

Sparstolonin B (100 μg/mouse; i.p.) suppresses LPS-provoked inflammation in mice[1].

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

Animal Model:	5-6-week-old male C57Bl/6 mice (body weight 18-20 g)[1]
Dosage:	100 μg/mouse
Administration:	I.p.
Result:	Significantly lower TNFα and IL-1β expression levels in LPS-induced sepsis mouse model.

CUSTOMER VALIDATION

- Biofactors. 2021 Aug 2.
- Exp Cell Res. 2022 May 18;417(1):113214.
- World J Surg Oncol. 2022 Aug 25;20(1):266.

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REFERENCES

[1]. Liang Q, et al. Characterization of sparstolonin B, a Chinese herb-derived compound, as a selective Toll-like receptor antagonist with potent anti-inflammatory properties. J Biol Chem. 2011;286(30):26470-26479.

[2]. Deng X, et al. The Chinese herb-derived Sparstolonin B suppresses HIV-1 transcription. Virol J. 2015;12:108. Published 2015 Jul 25.

[3]. Kumar A, et al. Sparstolonin B, a novel plant derived compound, arrests cell cycle and induces apoptosis in N-myc amplified and N-myc nonamplified neuroblastoma cells [published correction appears in PLoS One. 2016;11(7):e0159082]. PLoS One. 2014;9(5):e96

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