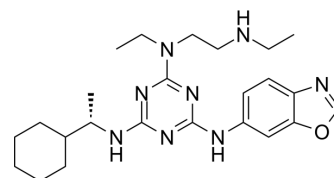


LS-102

Cat. No.:	HY-135844
CAS No.:	1456891-34-1
Molecular Formula:	C ₂₄ H ₃₆ N ₈ O
Molecular Weight:	452.6
Target:	E1/E2/E3 Enzyme
Pathway:	Metabolic Enzyme/Protease
Storage:	-20°C, protect from light, stored under nitrogen * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light, stored under nitrogen)



SOLVENT & SOLUBILITY

In Vitro	DMSO : 100 mg/mL (220.95 mM; Need ultrasonic)					
		Solvent Concentration	Mass			
	Preparing Stock Solutions			1 mg	5 mg	10 mg
		1 mM		2.2095 mL	11.0473 mL	22.0946 mL
		5 mM		0.4419 mL	2.2095 mL	4.4189 mL
	10 mM		0.2209 mL	1.1047 mL	2.2095 mL	
Please refer to the solubility information to select the appropriate solvent.						
In Vivo	<ol style="list-style-type: none"> Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.5 mg/mL (5.52 mM); Clear solution Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (5.52 mM); Clear solution Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.5 mg/mL (5.52 mM); Clear solution 					

BIOLOGICAL ACTIVITY

Description	LS-102 is a selective E3 ubiquitin ligase synoviolin (Syvn1) inhibitor. LS-102 inhibits the autoubiquitination of synoviolin with an IC ₅₀ of 35 μM. LS-102 has the potential for rheumatoid arthritis treatment ^{[1][2]} .
In Vitro	<p>LS-102 inhibits proliferation of RSCs with an IC₅₀ of 5.4 μM^[1].</p> <p>LS-102 suppresses proliferation of rheumatoid synovial cells (RSCs) in a Syvn1-dependent manner. LS-102 suppresses polyubiquitination of target proteins of Syvn1, including nuclear factor erythroid 2-related factor 2 (NRF2), V247M α-sarcoglycan mutant, and PGC-1β. LS-102 inhibits E3 ligase activity of Synoviolin (Syvn1)^[2].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>

	Cell Viability Assay ^[1]	
	Cell Line:	Rheumatoid synovial cells (RSCs)
	Concentration:	20, 40, 60 μ M
	Incubation Time:	12 hours
	Result:	Inhibited proliferation of RSCs with an IC ₅₀ of 5.4 μ M.
In Vivo	LS-102 (1.3-4 mg/kg; i.p.; daily for 4 weeks) reduces clinical severity scores in a CIA model ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.	
	Animal Model:	7-week-old DBA/1 male mice (CIA model) ^[1]
	Dosage:	1.3, 4.0 mg/kg
	Administration:	I.p.; daily for 4 weeks
	Result:	Reduced the clinical severity scores.

CUSTOMER VALIDATION

- J Nutr Biochem. 2022 Oct 10;109178.
- bioRxiv. 2023 Jun 5.

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REFERENCES

- [1]. Fujita H, et al. Identification of the inhibitory activity of walnut extract on the E3 ligase Syvn1. Mol Med Rep. 2018 Dec;18(6):5701-5708.
- [2]. Yagishita N, et al. RING-finger type E3 ubiquitin ligase inhibitors as novel candidates for the treatment of rheumatoid arthritis. Int J Mol Med. 2012 Dec;30(6):1281-6.

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

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