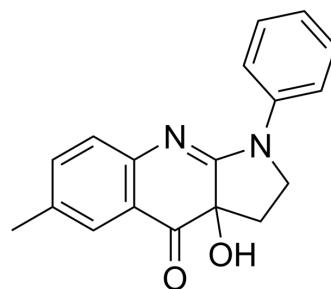


Blebbistatin

Cat. No.:	HY-13813		
CAS No.:	674289-55-5		
Molecular Formula:	C ₁₈ H ₁₆ N ₂ O ₂		
Molecular Weight:	292.33		
Target:	Myosin		
Pathway:	Cytoskeleton		
Storage:	Powder	-20°C	3 years
	In solvent	-80°C	2 years
		-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro	DMSO : 25 mg/mL (85.52 mM); Need ultrasonic)				
		Solvent Concentration	Mass 1 mg	5 mg	10 mg
	Preparing Stock Solutions	1 mM	3.4208 mL	17.1040 mL	34.2079 mL
		5 mM	0.6842 mL	3.4208 mL	6.8416 mL
		10 mM	0.3421 mL	1.7104 mL	3.4208 mL
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: 2.5 mg/mL (8.55 mM); Suspended solution; Need ultrasonic				

BIOLOGICAL ACTIVITY

Description	Blebbistatin is a selective non-muscle myosin II (NMII) inhibitor, promotes directional migration of corneal endothelial cells (CECs) and accelerates wound healing, and better preserves cell junctional integrity and barrier function. Blebbistatin blocks cell migration ^{[1][2]} .
IC ₅₀ & Target	Non-muscle myosin II (NMII) ^[1]
In Vitro	The therapeutic potential of targeting NMII to enhance CEC migration is investigated using bovine corneal endothelial cells (BCECs). Blebbistatin, a direct myosin motor inhibitor, promotes migration and directional persistence in CECs through decreasing actin retrograde flow and increasing lamellipodial protrusion persistence to accelerate wound healing in vitro ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Blebbistatin (0.05 mL, 20 μM; intracameral injection; daily; for 6 days; New Zealand white rabbits) treatment promotes wound healing in rabbit corneal endothelial scraping model ^[1] .

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

Animal Model:	New Zealand white rabbits (16-20 weeks; 3-3.5 kg) ^[1]
Dosage:	0.05 mL; 20 μ M
Administration:	Intracameral injection; daily; for 6 days
Result:	Resulted in significant improvement of corneal clarity and corneal edema resolution, implying the restoration of an intact corneal endothelial monolayer.

CUSTOMER VALIDATION

- Cell Res. 2021 Sep;31(9):951-964.
- Mol Ther. 2023 Feb 28;S1525-0016(23)00116-8.
- Adv Healthc Mater. 2023 Jan 14;e2202611.
- Adv Healthc Mater. 2022 Jan 10;e2101657.
- ACS Appl Mater Interfaces. 2023 Oct 9.

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REFERENCES

- [1]. Liang Ma, et al. Discovery of the migrasome, an organelle mediating release of cytoplasmic contents during cell migration. Cell Res. 2015 Jan;25(1):24-38.
- [2]. Ho WT, et al. Targeting non-muscle myosin II promotes corneal endothelial migration through regulating lamellipodial dynamics. J Mol Med (Berl). 2019 Sep;97(9):1345-1357.

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

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