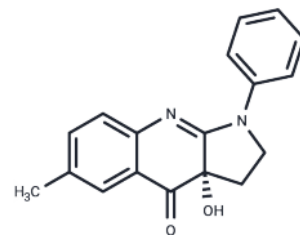


(-)-Blebbistatin

#Cat: NB-64-30790-2mg	Size: 2 mg
#Cat: NB-64-30790-5mg	Size: 5 mg
#Cat: NB-64-30790-10mg	Size: 10 mg
#Cat: NB-64-30790-25mg	Size: 25 mg
#Cat: NB-64-30790-50mg	Size: 50 mg
#Cat: NB-64-30790-100mg	Size: 100 mg

Chemical Properties:

CAS No:	856925-71-8
Formula:	C ₁₈ H ₁₆ N ₂ O ₂
Molecular Weight:	292.33
Appearance:	no data available
Storage:	store at low temperature, keep away from moisture
	Powder: -20°C for 3 years In solvent: -80°C for 1 year



Biological Description:

Description	(-)-Blebbistatin ((S)-(-)-Blebbistatin) is an S enantiomer of blebbistatin. It is a potent and selective myosin II inhibitor with IC ₅₀ ranging from 0.5 to 5 μM.
Targets (IC₅₀)	ATPase, Myosin
In vitro	METHODS: Mouse hepatic stellate cell HSCs were treated with (-)-Blebbistatin (12.5-50 μM) for 2 h and cell morphology was observed using microscopy. RESULTS: When treated with (-)-Blebbistatin for 2 h, the cells became smaller, acquired more dendritic morphology, and had fewer stress fibers and lamellipods. [1] METHODS: Porcine TM cells were treated (-)-Blebbistatin (25-100 μM) for 2 h. The expression levels of target proteins were detected using Western Blot. RESULTS: There was no difference in MLC phosphorylation status between control and drug-treated samples. [2]
In vivo	Blebbistatin completely relaxes both KCl- and carbachol-induced rat detrusor and endothelin-1-induced human bladder contraction in a dose-dependent manner. Preincubation with 10 μM blebbistatin attenuates carbachol responsiveness by 65% while blocking electrical field stimulation-induced bladder contraction reaching 50% inhibition at 32 Hz[4].
Kinase Assay	Inhibition of Cox Activity: Inhibition of Cox-1 activity is measured by monitoring oxygen consumption during the conversion of arachidonic acid to PGs using a Clark-type O ₂ - electrode. The reaction mixture contains ~0.2 units Cox-1 in 100 μL of microsome fraction derived from ram seminal vesicles as a crude source of Cox-1 (specific activity 0.2–1 units/mg protein) or 0.23 units of recombinant human Cox-2 (specific activity 43 units/mg protein). For calculation, the rate of O ₂ consumption is compared with a DMSO control (100% activity). Piroxicam, a nonsteroidal anti-inflammatory drug, is used as positive inhibitory substance for Cox-1 activity with an IC ₅₀ of 0.35 ± 0.05 μM (n = 2). Alternatively, nimesulide, a Cox-2 specific inhibitor, inhibits Cox-2 activity by 52 ± 5.7% (n = 2) at a concentration of 50 μM.

Cell Research	Freshly isolated HSCs are replated on 96-well plate. At day 3, medium is replaced by serum-free medium and cells are starved overnight, treated with or without blebbistatin (25 μ M) for 2 h followed by stimulation with platelet-derived growth factor-BB (20 ng/mL). After an overnight incubation, the WST-1 cell proliferation assay are performed [3].
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Solubility Information

Solubility	DMSO: 55 mg/mL (188.14 mM), 10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2.92 mg/mL (9.99 mM), In vivo: Suspension. Please add co-solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.4208 mL	17.104 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
50 mM	0.0684 mL	0.3421mL	0.6842 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Reference

Sahara S, Ueno A, Wakita N, et al.(S)-(-)-blebbistatin O-benzoate has the potential to improve atopic dermatitis symptoms in NC/Nga mice by upregulating epidermal barrier function and inhibiting type 2 alarmin cytokine

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins
This product is for Research Use Only· Not for Human or Veterinary or Therapeutic Use