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Zuschläge

- Mindermengenzuschlag
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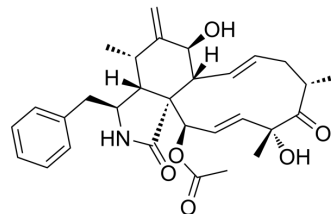
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Cytochalasin D

Cat. No.:	HY-N6682
CAS No.:	22144-77-0
Molecular Formula:	C ₃₀ H ₃₇ NO ₆
Molecular Weight:	507.62
Target:	Arp2/3 Complex; Antibiotic; YAP
Pathway:	Cytoskeleton; Anti-infection; Stem Cell/Wnt
Storage:	Powder -20°C 3 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro	DMSO : 25 mg/mL (49.25 mM; ultrasonic and warming and heat to 60°C)					
	Preparing Stock Solutions	Solvent Concentration	Mass	1 mg	5 mg	10 mg
		1 mM		1.9700 mL	9.8499 mL	19.6998 mL
		5 mM		0.3940 mL	1.9700 mL	3.9400 mL
		10 mM		0.1970 mL	0.9850 mL	1.9700 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: ≥ 1.25 mg/mL (2.46 mM); Clear solution					
	2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 1.25 mg/mL (2.46 mM); Clear solution					
	3. Add each solvent one by one: 10% DMSO >> 90% corn oil					
	Solubility: ≥ 1.25 mg/mL (2.46 mM); Clear solution					

BIOLOGICAL ACTIVITY

Description	Cytochalasin D (Zygospurin A) is a potent actin polymerization inhibitor, could be derived from fungus. Cytochalasin D has cell-permeable activity. Cytochalasin D inhibits the G-actin-cofilin interaction by binding to G-actin. Cytochalasin D also inhibits the binding of cofilin to F-actin and decreases the rate of both actin polymerization and depolymerization in living cells. Cytochalasin D can reduce exosome release, in turn reducing the amount of survivin present in the tumour environment. Cytochalasin D induces phosphorylation and cytoplasmic retention of Yap ^{[1][2][3][4]} .
In Vitro	Cytochalasin D (3 and 10 μM; 30 min) causes retraction and arborization of COS-7 cells and conversion of F-actin from long fibers to punctate structures ^[1] .

Cytochalasin D (0.3, 1, 3 and 10 μ M; 30 min) concentration-dependently decreases the rate of actin depolymerization in COS-7 cells^[1].

Cytochalasin D (1 μ M; NIH3T3 cells) disrupts stress fibers, and induces phosphorylation of Yap, while cells maintain the original area and lost nuclear Yap localization^[4].

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

Western Blot Analysis

Cell Line:	COS-7 cells ^[1]
Concentration:	3 and 10 μ M
Incubation Time:	30 min
Result:	Caused retraction and arborization of COS-7 cells and conversion of F-actin from long fibers to punctate structures.

Western Blot Analysis

Cell Line:	COS-7 cells expressing YFP-actin ^[1]
Concentration:	0.3, 1, 3 and 10 μ M
Incubation Time:	30 min
Result:	Concentration-dependently decreased the rate of actin depolymerization in COS-7 cells.

CUSTOMER VALIDATION

- Nat Methods. 2023 Nov 2.
- Nat Microbiol. 2024 Jun 7.
- Circ Res. 2023 Jan 6;132(1):87-105.
- Bioact Mater. 2024 Apr, 34, Pages 37-50.
- Bioact Mater. 16 August 2022.

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REFERENCES

- [1]. Shoji K, et, al. Cytochalasin D acts as an inhibitor of the actin-cofilin interaction. Biochem Biophys Res Commun. 2012 Jul 20;424(1):52-7.
- [2]. Flanagan MD, et, al. Cytochalasins block actin filament elongation by binding to high affinity sites associated with F-actin. J Biol Chem. 1980 Feb 10;255(3):835-8.
- [3]. Catalano M, et, al. Inhibiting extracellular vesicles formation and release: a review of EV inhibitors. J Extracell Vesicles. 2019 Dec 19;9(1):1703244.
- [4]. Wada K, et, al. Hippo pathway regulation by cell morphology and stress fibers. Development. 2011 Sep;138(18):3907-14.

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

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