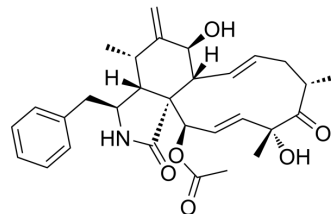


Cytochalasin D

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)

Concentration	Solvent	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.

BIOLOGICAL ACTIVITY

Description

Cytochalasin D (Zygosporin 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 μM; 30 min) concentration-dependently decreases the rate of actin depolymerization in COS-7 cells^[1].

Cytochalasin D (1 μM; 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

- Circ Res. 2023 Jan 6;132(1):87-105.
- Bioact Mater. 16 August 2022.
- Nat Commun. 2022 Sep 26;13(1):5657.
- Biomaterials. 13 January 2022, 121373.
- Autophagy. 2022 Sep 28;1-20.

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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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