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Zuschläge

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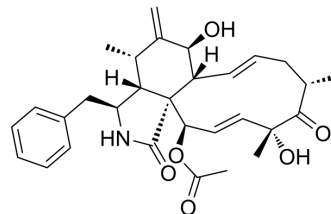
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Cytochalasin D

Cat. No.:	HY-N6682
CAS No.:	22144-77-0
Molecular Formula:	C ₃₀ H ₃₇ NO ₆
Molecular Weight:	508
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 (49.21 mM); ultrasonic and warming and heat to 60°C)

	Solvent Concentration	Mass	1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM		1.9685 mL	9.8425 mL	19.6850 mL
	5 mM		0.3937 mL	1.9685 mL	3.9370 mL
	10 mM		0.1969 mL	0.9843 mL	1.9685 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

- Nat Methods. 2023 Nov 2.
- Circ Res. 2023 Jan 6;132(1):87-105.
- Bioact Mater. 2024 Apr, 34, Pages 37-50.
- Bioact Mater. 16 August 2022.
- Nat Commun. 2022 Sep 26;13(1):5657.

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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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