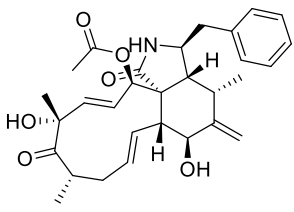


Product data sheet



MedKoo Cat#: 561880 Name: Cytochalasin D CAS#: 22144-77-0 Chemical Formula: C ₃₀ H ₃₇ NO ₆ Exact Mass: 507.2621 Molecular Weight: 507.62	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years. In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:

Cytochalasin D is a fungal metabolite. It blocks formation of contractile microfilament structures, resulting in multinucleated cell formation, reversible inhibition of cell movement, and the induction of cellular extrusion. It also inhibits actin polymerization, DNA synthesis, sperm motility, glucose transport, thyroid secretion, and growth hormone release.

2. CoA, QC data, SDS, and handling instruction

SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under “QC And Documents” section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMSO	75.0	147.75
Ethanol	5.0	9.85

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	1.97 mL	9.85 mL	19.70 mL
5 mM	0.39 mL	1.97 mL	3.94 mL
10 mM	0.20 mL	0.98 mL	1.97 mL
50 mM	0.04 mL	0.20 mL	0.39 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator

Please refer the product web page under section of “Calculator”

6. Recommended literature which reported protocols for in vitro and in vivo study

In vitro study

1. Liu Q, Zhuang Y, Ouyang N, Yu H. Cytochalasin D Promotes Osteogenic Differentiation of MC3T3-E1 Cells via p38-MAPK Signaling Pathway. *Curr Mol Med.* 2019;20(1):79-88. doi: 10.2174/1566524019666191007104816. PMID: 31589123.
2. Gao M, Wu S, Ji J, Zhang J, Liu Q, Yue Y, Liu L, Liu X, Liu W. The influence of actin depolymerization induced by Cytochalasin D and mechanical stretch on interleukin-8 expression and JNK phosphorylation levels in human retinal pigment epithelial cells. *BMC Ophthalmol.* 2017 Apr 7;17(1):43. doi: 10.1186/s12886-017-0437-z. PMID: 28388885; PMCID: PMC5384187.

In vivo study

1. Huang FY, Mei WL, Tan GH, Dai HF, Li YN, Guo JL, Huang YH, Zhao HG, Wang H, Zhou SL, Lin YY. Cytochalasin D promotes pulmonary metastasis of B16 melanoma through expression of tissue factor. *Oncol Rep.* 2013 Jul;30(1):478-84. doi: 10.3892/or.2013.2423. Epub 2013 Apr 24. PMID: 23615686.
2. Huang FY, Li YN, Mei WL, Dai HF, Zhou P, Tan GH. Cytochalasin D, a tropical fungal metabolite, inhibits CT26 tumor growth and angiogenesis. *Asian Pac J Trop Med.* 2012 Mar;5(3):169-74. doi: 10.1016/S1995-7645(12)60019-4. PMID: 22305779.

7. Bioactivity

Biological target:

Product data sheet



Cytochalasin D (Zygosporin A; NSC 209835) is an inhibitor of actin polymerization derived from fungus, inhibits the G-actin-cofilin interaction by binding to G-actin.

In vitro activity

The osteogenic differentiation of MC3T3-E1 cells induced by Cyto D (cytochalasin D) was assessed by alkaline phosphatase (ALP) staining, Alizarin Red S (ARS) staining, western blotting and quantitative real-time polymerase chain reaction (RT-qPCR). The results showed that the optimized concentration of action was 10-2 μ g/ml. The expression of Runx2, OCN and OSX was up-regulated by the supplement of Cyto D.

Reference: Curr Mol Med. 2019;20(1):79-88. <https://pubmed.ncbi.nlm.nih.gov/31589123/>

In vivo activity

Relative to the DMSO-treated control group, significant lung metastatic colonies were observed on the lung surfaces of the mice treated with CytD (cytochalasin D) (Fig. 1A). The average lung weight of the CytD-treated mice was significantly greater than that of the DMSO-treated mice, 1.46 \pm 0.15 vs. 0.82 \pm 0.18 g (Fig. 1B) (P<0.001). In addition, the number of surface metastatic colonies was also significantly increased in CytD-treated mice relative to controls, 893.47 \pm 135.69 vs. 294.63 \pm 143.29 (Fig. 1C) (P<0.001).

Reference: Oncol Rep. 2013 Jul;30(1):478-84. <https://pubmed.ncbi.nlm.nih.gov/23615686/>

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.