

## Cytochalasin D Datasheet

5<sup>th</sup> Edition (Revised in January, 2017)

### [ Product Information ]

**Name:** Cytochalasin D

**Catalog No.:** CFN98204

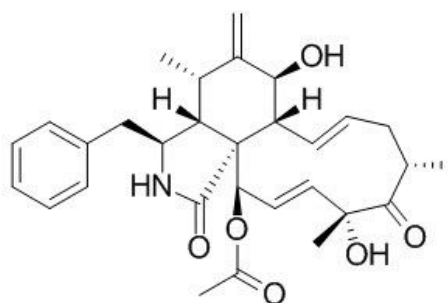
**Cas No.:** 22144-77-0

**Purity:** > 95%

**M.F:** C<sub>30</sub>H<sub>37</sub>NO<sub>6</sub>

**M.W:** 507.6

**Physical Description:** Powder



**Synonyms:** 3-Benzyl-6,12-dihydroxy-4,10,12-trimethyl-5-methylidene-1,11-dioxo-2,3,3a,4,5,6,6a,9,10,11,12,15-dodecahydro-1H-cycloundeca[d]isoindol-15-yl acetate.

### [ Intended Use ]

1. Reference standards;
2. Pharmacological research;
3. Synthetic precursor compounds;
4. Intermediates & Fine Chemicals;
5. Others.

### [ Source ]

From *Engleromyces goetzii*.

### [ Biological Activity or Inhibitors ]

Cytochalasin D can inhibit actin polymerization and induce depolymerization of actin filaments formed during platelet shape change.<sup>[1]</sup>

Cytochalasin D stimulates chondrogenesis in response to modification of cytoskeleton architecture and the subsequent rounding up of the cells.<sup>[2]</sup>

Cytochalasin D inhibits smooth muscle contraction by directly inhibiting contractile apparatus.<sup>[3]</sup>

Cytochalasin D is an inhibitor of microfilament-dependent phagocytosis, it (0.5 or 1.0 micrograms/ml) can inhibit intracellular multiplication of *L. pneumophila* in U937 monocytes.<sup>[4]</sup>

When cytochalasin D is used as a cytotoxic agent in cancer therapy, it causes significant side effects, liposomal cytochalasin D increases solubility and bioavailability, a lower incidence of side effects and improves antitumour effects, indicating its potential as a chemical agent for cancer therapy.<sup>[5]</sup>

Cytochalasin D may be an inhibitor of some fertilization processes such as sperm penetration or sperm head decondensation.<sup>[6]</sup>

Cytochalasin D disruption of actin filaments in 3T3 cells produces an anti-apoptotic response by activating gelatinase A extracellularly and initiating intracellular survival signals.<sup>[7]</sup>

Cytochalasin D can reduce  $\text{Ca}^{2+}$  sensitivity and maximum tension via interactions with myofilaments in skinned rat cardiac myocytes.<sup>[8]</sup>

## **[ Solvent ]**

Chloroform, Dichloromethane, Ethyl Acetate, DMSO, Acetone, etc.

## **[ HPLC Method ]<sup>[9]</sup>**

Mobile phase: Methanol -H<sub>2</sub>O, gradient elution;

Flow rate: 1.0 ml/min;

Column temperature: Room Temperature;

The wave length of determination: 210 nm.

## **[ Storage ]**

2-8°C, Protected from air and light, refrigerate or freeze.

## **[ References ]**

- [1] Casella J F, Flanagan M D, Lin S. *Nature*, 1981, 293(5830):302-5.
- [2] Loty S, Forest N, Boulekbache H, *et al. Biology of the Cell*, 1995, 83(2-3):149-61.
- [3] Saito S Y, Hori M, Ozaki H, *et al. J. Smooth Muscle Res.*, 1996 Apr;32(2):51-60.
- [4] King C H, Fields B S, Jr S E, *et al. Infect. Immun.*, 1991 Mar;59(3):758-63.
- [5] Huang F Y, Mei W L, Li Y N, *et al. Eur. J. Cancer*, 2012 Sep;48(14):2260-9.
- [6] Rogers B J, Bastias C, Coulson R L, *et al. J. Androl.*, 1989 Jul-Aug;10(4):275-82.
- [7] Ailenberg M, Silverman M. *Biochim. Biophys. Acta*, 2003 Feb 17;1593(2-3):249-58.
- [8] Chang J, Zhao X M, Liu C X, *et al. Biomed. Chromatogr.*, 2008, 22(2):191-5.
- [9] Amarala L S, Rodrigues-Filho E, Santos C A, *et al. Nat. Prod. Commun.*, 2014 Sep;9(9):1279-82.

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