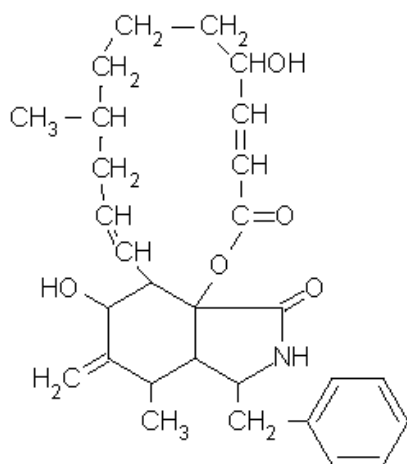


Product Information

Cytochalasin B Ready Made Solution from *Drechslera dematioidea*

Catalog Number **C2743**
Storage Temperature $-20\text{ }^{\circ}\text{C}$

CAS RN 14930-96-2
Synonym: phomin



Product Description

Molecular Formula: $\text{C}_{29}\text{H}_{37}\text{NO}_5$
Molecular Weight: 479.61

The cytochalasins (Greek *cytos*, cell; *chalis*, relaxation) are a group of related fungal metabolites. They were discovered in 1964 during the screening of mold filtrates for possible biological activity on cells.¹ These fungal toxins are related by chemical structure. All are characterized by a highly substituted hydrogenated isoindole ring to which is fused a macrocyclic ring. The macrocyclic ring varies from 11–14 atoms and may be either a carbocycle or lactone. These fungal toxins also share a number of unusual, interesting, and characteristic effects on animal cells.

Cytochalasin B is a metabolite of the fungus *Drechslera* (previously *Heiminthosporium dematioideum*). It was originally isolated from cultures of a *Phoma* species and, therefore, was sometimes referred to as phomin. Cytochalasin B is cell membrane permeable. It inhibits cell division by blocking formation of contractile microfilaments,^{1,2} inhibits cell movement,^{1,2} and induces nuclear extrusion.¹⁻⁴

Cytochalasin B shortens actin filaments by blocking monomer addition at the fast growing end of the polymer and impairs maintenance of long term potentiation (LTP) of action filaments.^{5,6} It inhibits glucose transport⁷⁻¹⁰ and platelet aggregation,¹¹⁻¹⁴ and blocks adenosine-induced apoptotic body formation without affecting activation of endogenous ADP-ribosylation in leukemia LH-60 cells.¹⁵

Dihydrocytochalasin B (dihydro-CB), the saturated derivative of cytochalasin B, induces changes in morphology and motility, but has little effect on sugar transport.¹⁶⁻¹⁸ Dihydrocytochalasin B and its γ -lactone are useful probes for studying cytochalasin binding sites.^{19,20}

Reagent

Cytochalasin B Ready Made Solution is supplied as a 10 mg/ml, 0.2 μm -filtered solution in dimethyl sulfoxide (DMSO).

Note: The final concentration of DMSO in the aqueous working medium should not exceed 0.1% because higher DMSO concentrations can adversely affect many cultured cells. Dilute the product in the appropriate aqueous medium to provide a physiologically acceptable final concentration. The physiologically desired working concentrations vary for different applications: 10 μM Cytochalasin B can completely block adenosine-induced apoptotic body formation in cultured HL-60 cells¹⁵ and 30 μM Cytochalasin B can shorten actin filaments by blocking monomer addition at the fast growing end of the polymer.⁵

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices. Cytochalasins are regarded as highly toxic and possible teratogens. Handle in a manner to avoid/minimize direct body contact and inhalation.

Storage/Stability

The product is stable for two years when stored $-20\text{ }^{\circ}\text{C}$.

References

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