
Product Data Sheet

Product Name: Cytochalasin J

Cat. No.: GC10870

Chemical Properties

Cas. No. 53760-20-6

Chemical Name 2,3,3a,4,5,6,6a,9,10,11,12,15-dodecahydro-6,12,15-trihydroxy-4,10,12-trimethyl-5-methylene-3-(phenylmethyl)-1H-cycloundec[d]isoindol-1-one

SMILES O=C1N[C@@H](CC2=CC=CC=C2)[C@]([C@]31[C@H](O)/C=C/[C@](C)(O)C[C@@H](C)C/C=C/[C@@]3([H])[C@@H]4O)([H])[C@H](C)C4=C

Formula C₂₈H₃₇NO₄

M.Wt 451.6

Solubility Soluble in ethanol; Soluble in methanol; Soluble in DMSO; Soluble in dimethyl formamide

Store
Storage at -
20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure **Background**

Cytochalasin J can alter mitotic spindle microtubule organization and kinetochore structure.

The cytochalasins are cell-permeable fungal metabolites inhibiting actin polymerization, which can alter diverse processes including cell movement, growth, phagocytosis, degranulation, and secretion.

In vitro: Cytochalasin J was identified as a deacetylated analog of cytochalasin H that weakly inhibited actin assembly but significantly altered mitotic spindle microtubule organization and kinetochore structure [1]. In a previous study, cytochalasin J treatment of prometaphase cells reduced the number of kMTs and the size and organization of the kinetochore lamina. Moreover, in approximately 30% of cells treated with cytochalasin J,

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the failure of a small number of chromosomes to attach to spindle fibers could be documented. These chromosomes showed a significant change in the organization of the kinetochore laminae. Light microscopic analyses of cells treated with cytochalasin J revealed loss of chromosome congression, with chromosomes usually located at the periphery of the spindle. Cells treated with 10 microg/ml cytochalasin J for 10 min and released into tissue culture medium showed a resumption of chromosome motion within a few minutes, both during congression and anaphase [2].

In vivo: Up to now, there is no animal in vivo data reported.

Clinical trial: So far, no clinical study has been conducted.

References:

[1] Walling, E. A., Krafft, G.A. and Ware, B.R. Actin assembly activity of cytochalasins and cytochalasin analogs assayed using fluorescence photobleaching recovery. Archives of Biochemistry and Biophysics 264(1), 321-332 (1988).

[2] Wrench, G. A. and Snyder, J.A. Cytochalasin J treatment significantly alters mitotic spindle microtubule organization and kinetochore structure in PtK1 cells. Cell Motility and the Cytoskeleton 36(2), 112-124 (1997).

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