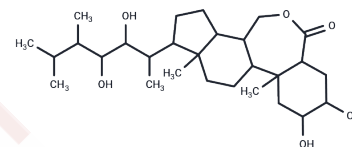


Brassinolide

Chemical Properties

CAS No. :	72962-43-7
Formula:	C ₂₈ H ₄₈ O ₆
Molecular Weight:	480.68
Storage:	Keep away from moisture Powder: -20°C for 3 years In solvent: -80°C for 1 year <small>Actual storage temperature shall be subject to the COA.</small>



Biological Description

Description	Brassinolide (Brassin lactone) is a plant hormone isolated from rapeseed (<i>Brassica napus</i>) promoting stem elongation and cell division.
Targets(IC50)	Apoptosis
In vitro	Brassinolide, a plant sterol isolated from rape pollen (<i>Brassica napus</i> L.), demonstrates both growth-modulating properties and potential anti-cancer activities. In PC-3 cells, Brassinolide induces cytotoxicity in a time and concentration-dependent manner, primarily through apoptosis. This is evidenced by increased Caspase-3 activity, and a decrease in the anti-apoptotic protein Bcl-2, as confirmed by various microscopy techniques and flow-cytometric analysis. These findings position Brassinolide as a promising candidate for prostate cancer treatment[1]. Furthermore, Brassinolide shows efficacy in reversing multidrug resistance (MDR) in the human T lymphoblastoid cell line CCRF-VCR, which develops resistance through exposure to vincristine (VCR). Treatment with Brassinolide at concentrations between 0.001-10 µg/mL partially reverses this resistance and enhances the intracellular accumulation of rhodamine 123, indicating a reduction in drug efflux mediated by P-glycoprotein. Despite showing no change in topoisomerase II activity, Brassinolide treatment normalizes the elevated levels of p53 protein in resistant cells to those seen in sensitive cells. This suggests that modulating p53 expression could be a mechanism by which Brassinolide reverses MDR[2].
Cell Research	Brassinolide is dissolved in DMSO and stored, and then diluted with appropriate medium before use[2]. MTT method is used to detect the resistant factor of resistant cell line and the reversing fold after addition of Brassinolide. The intracellular accumulation of rhodamine 123, a fluorescent dye transported by P-glycoprotein is detected by flow cytometry, the catalytic activity of topoisomerase II is assessed by Sulliven method to find the effect of Brassinolide on resistance. The protein expression of p53 is measured using Western blotting in the sensitive cells and resistant cells to explore the effect of Brassinolide[2].

Solubility Information

A DRUG SCREENING EXPERT

Solubility	DMSO: 60 mg/mL (124.82 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.0804 mL	10.4019 mL	20.8039 mL
5 mM	0.4161 mL	2.0804 mL	4.1608 mL
10 mM	0.208 mL	1.0402 mL	2.0804 mL
50 mM	0.0416 mL	0.208 mL	0.4161 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Wu YD, et al. Brassinolide, a plant sterol from pollen of Brassica napus L., induces apoptosis in human prostate cancer PC-3 cells. *Pharmazie*. 2007 May;62(5):392-5.

Xian LJ, et al. Reversing effect of brassinolide on multidrug resistance of-CCRF-VCR12000 cells and a preliminary investigation on its mechanisms. *Yao Xue Xue Bao*. 2005 Feb;40(2):117-21.

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