

Tulipalin A

Chemical Properties

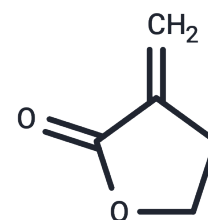
CAS No. : 547-65-9

Formula: C₅H₆O₂

Molecular Weight: 98.1

Storage: Pure form: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.



Biological Description

Description	Tulipalin A (α -methylene- γ -butyrolactone) (2-Methylenebutyrolactone) which has some phytotoxicity is a natural compound extracted from <i>Tulipa gesneriana</i> .
Targets(IC50)	Drug Metabolite
In vitro	Tulipalin A-induced phytotoxicity is persistent allergic contact dermatitis documented in floral workers exposed to <i>Alstroemeria</i> and its cultivars [1]. THP-1 cells showed strong robustness to Tulipalin A treatment since only five proteins were altered. In contrast, in Jurkat T cells an increase in the abundance of 66 proteins and a decrease of six proteins was determined [2].
Cell Research	The influence of TUPA on cell viability was measured using the MTT assay. Cells were seeded in flat bottom 96-well plates at a density of 4×10^5 cells/ml. Afterward, Jurkat cells were exposed to TUPA in concentrations ranging from 10 to 82 μ M. THP-1 cells (4×10^5 cells / ml) were exposed to concentrations ranging from 20 to 163 μ M. After incubation for 72 h under humidified conditions (5 % CO ₂ , 37 °C), 10 μ l of MTT (5 mg/ml) per well were added and cells were further incubated for 3 h. Subsequently, 200 μ l DMSO was added for cell lysis and formazan solubilization following incubation of the plates for 15 min while shaking. Afterward, absorbance was recorded at 550 nm and 620 nm using a microplate reader. In each plate, cells remained either untreated (negative control) or were exposed to Etoposide (2.5 μ M) as a positive control. Using linear regression of the cell viability as a function of the compound concentrations, the concentrations leading to viability decreases of 10 % and 50 %, respectively, were calculated [2].

Solubility Information

Solubility	DMSO: 45 mg/mL (458.72 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	10.1937 mL	50.9684 mL	101.9368 mL
5 mM	2.0387 mL	10.1937 mL	20.3874 mL
10 mM	1.0194 mL	5.0968 mL	10.1937 mL
50 mM	0.2039 mL	1.0194 mL	2.0387 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

McCluskey J, et al. Tulipalin A induced phytotoxicity. *Int J Crit Illn Inj Sci.* 2014 Apr;4(2):181-3.

Zwicker P, et al. A proteomic approach for the identification of immunotoxic properties of Tulipalin A. *Proteomics.* 2016 Dec;16(23):21997-32008.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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