Data Sheet (Cat.No.T20781)

TargetMol

Maleic hydrazide

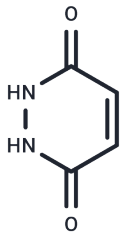
Chemical Properties

CAS No. : 123-33-1

Formula: C4H4N2O2

Molecular Weight: 112.09

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.



Biological Description

Description	Maleic hydrazide is a plant growth regulator and germination inhibitor that participates in nucleic acid metabolism pathways within plants, thereby inhibiting cell division in the apical meristem.
Targets(IC50)	DNA/RNA Synthesis
In vitro	In previous studies, the toxicity of ethephon and maleic hydrazide, which are used as plant growth regulators in agriculture, was reported to be low in mammals. In this study, the cytotoxicity of these compounds was investigated in Vero (African green monkey kidney epithelial), HepG2 (human hepatocellular carcinoma), and Hep2 (human epidermoid carcinoma) cells by MTT and LDH assays. Maleic hydrazide showed lower IC50 values against all cell lines compared to ethephon. [5]

Solubility Information

Solubility	DMSO: 100 mg/mL (892.14 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 4 mg/mL (35.69 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	8.9214 mL	44.607 mL	89.214 mL
5 mM	1.7843 mL	8.9214 mL	17.8428 mL
10 mM	0.8921 mL	4.4607 mL	8.9214 mL
50 mM	0.1784 mL	0.8921 mL	1.7843 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

Yurdakok B, et al. Cytotoxic effects of etephon and maleic hydrazide in Vero, Hep2, HepG2 cells. Drug Chem Toxicol. 2014 Oct;37(4):459-65.
Wang C, et al. Surface-enhanced Raman spectroscopic analysis of maleic hydrazide adsorbed on gold surface. Spectrochim Acta A Mol Biomol Spectrosc. 2014 Mar 25;122:65-74.
Pajares A, B et al. On the natural fate of maleic hydrazide. Kinetic aspects of the photochemical and microbiological degradation of the herbicide. J Photochem Photobiol B. 2014 Jun 5;135:48-54.
De Blauwer V, Demeulemeester K, Demeyere A, Hofmans E. Maleic hydrazide: sprout suppression of potatoes in the field. Commun Agric Appl Biol Sci. 2012;77(3):343-51.