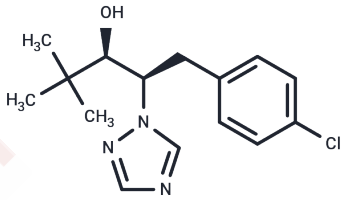
Data Sheet (Cat.No.T38273)

TargetMol

Paclobutrazol

Chemical Properties



CAS No. : 76738-62-0

Formula: C15H20ClN3O

Molecular Weight: 293.79

Storage: Keep away from direct sunlight
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	Paclobutrazol ((R,R)-paclobutrazol) is a triazole-containing plant growth retardant that is known to inhibit the biosynthesis of gibberellins.1,2It also has antifungal activities. 3PBZ, which is transported acropetally in plants, can also suppress the synthesis of abscisic acid and induce chilling tolerance in plants.1,4,5PBZ is typically used to support research on the role of gibberellins in plant biology.
Targets(IC50)	Antifungal

Solubility Information

Solubility	DMF: 10 mg/mL (34.04 mM),Sonication is recommended. DMSO: 105 mg/mL (357.4 mM),Sonication is recommended. Ethanol: 10 mg/mL (34.04 mM),Sonication is recommended. Ethanol:PBS(pH 7.2) (1:1): 0.5 mg/mL (1.7 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: 5 mg/mL (17.02 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	3.4038 mL	17.019 mL	34.0379 mL
5 mM	0.6808 mL	3.4038 mL	6.8076 mL
10 mM	0.3404 mL	1.7019 mL	3.4038 mL
50 mM	0.0681 mL	0.3404 mL	0.6808 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

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Rademacher, W.Growth retardants: Effects on gibberellin biosynthesis and other metabolic pathwaysAnnual Reviews of Plant Physiology and Plant Molecular Biology51501-531(2000)
Storey, G.K., and Gardner, W.A.Sensitivity of the entomogenous fungus Beauveria bassiana to selected plant growth regulators and spray additivesApplied and Environmental Microbiology52(1)1-3(2016)
Norman, S.M., Bennett, R.D., Poling, S.M., et al.Paclobutrazol inhibits abscisic acid biosynthesis in Cercospora rosicolaPlant Physiology80(1)122-125(1986)
Pinhero, R.G., Rao, M.V., Paliyath, G., et al.Changes in activities of antioxidant enzymes and their relationship to genetic and paclobutrazol-induced chilling tolerance of maize seedlingsPlant Physiology114(2)695-704(2016)
Wang, G.L., Que, F., Xu, Z.S., et al.Exogenous gibberellin altered morphology, anatomic and transcriptional regulatory networks of hormones in carrot root and shootBMC Plant Biol.15(1)(2015)
Cho, S.H., Kang, K., Lee, S.H., et al.OsWOX3A is involved in negative feedback regulation of the gibberellic acid biosynthetic pathway in rice (Oryza sativa)Journal of Experimental Botanyerv5591-11(2016)