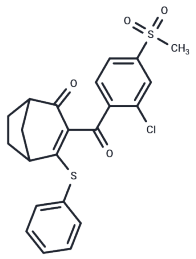
Data Sheet (Cat.No.T14531)

TargetMol

Benzobicyclon

Chemical Properties



CAS No. : 156963-66-5

Formula: C22H19ClO4S2

Molecular Weight: 446.97

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	Benzobicyclon is a 4-hydroxyphenylpyruvate dioxygenase (4-HPPD) inhibitor and herbicide that is spectrally active against annual grasses, sedges, and broadleaf weeds without toxicity to rice.
Targets(IC50)	Others,Reactive Oxygen Species
In vitro	Under greenhouse paddy conditions, the herbicidal activity of Benzobicyclon (200–300 g a.i./ha, 6% flowable) was evaluated in pot tests. Applied at pre-emergence and 1-leaf stage, Benzobicyclon effectively controlled Echinochloa crus-galli, Scirpus juncoides, Monochoria vaginalis, Lindernia dubia var. dubia, and Cyperus serotinus, with no phytotoxicity to transplanted rice. Less effective against Sagittaria pygmaea (requiring 600 g/ha)[1].

Solubility Information

Solubility	DMSO: 20.8 mg/mL (46.54 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: 1 mg/mL (2.24 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	2.2373 mL	11.1864 mL	22.3729 mL
5 mM	0.4475 mL	2.2373 mL	4.4746 mL
10 mM	0.2237 mL	1.1186 mL	2.2373 mL
50 mM	0.0447 mL	0.2237 mL	0.4475 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

Sekino K, et al. Herbicidal activity of a new paddy bleaching herbicide, Benzobicyclon. Journal of Pesticide Science, 2008, 33(4): 364-370.

Williams KL, et al. Hydrolytic Activation Kinetics of the Herbicide Benzobicyclon in Simulated Aquatic Systems. J Agric Food Chem. 2016 Jun 22;64(24):4838-44.