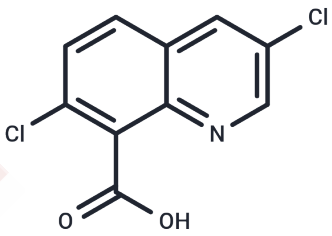
Data Sheet (Cat.No.T40936)

TargetMol

Quinclorac

Chemical Properties



CAS No. : 84087-01-4

Formula: C10H5Cl2NO2

Molecular Weight: 242.06

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	Quinclorac is a quinolinecarboxylic acid herbicide widely applied in agriculture, particularly for weed control in rice fields. It functions as an auxin-type herbicide, interfering with normal plant growth and development. Research indicates that Quinclorac induces oxidative stress in non-target organisms by generating free radicals and altering the antioxidant defense system.
Targets(IC50)	Others
In vitro	In biochemical and cellular models, Quinclorac exposure leads to a significant accumulation of intracellular reactive oxygen species (ROS). This increased oxidative pressure further induces lipid peroxidation (e.g., elevated MDA levels) and disrupts the activity balance of key antioxidant enzymes, such as SOD and CAT, resulting in cellular damage [1].
In vivo	In ecotoxicological studies using carp (Cyprinus carpio), exposure to Quinclorac (e.g., Facet® formulation) triggers significant changes in oxidative stress biomarkers across various fish tissues. Research has demonstrated that antioxidant supplementation, such as with diphenyl diselenide, can effectively mitigate Quinclorac-induced oxidative damage, enhancing survival and restoring the function of the defense system [1].

Solubility Information

Solubility	DMSO: 100 mg/mL (413.12 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	4.1312 mL	20.656 mL	41.3121 mL
5 mM	0.8262 mL	4.1312 mL	8.2624 mL
10 mM	0.4131 mL	2.0656 mL	4.1312 mL
50 mM	0.0826 mL	0.4131 mL	0.8262 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

Cavalheiro de Menezes C, et al. The effects of diphenyl diselenide on oxidative stress biomarkers in Cyprinus carpio exposed to herbicide quinclorac (Facet®). Ecotoxicol Environ Saf. 2012;81:91-97.