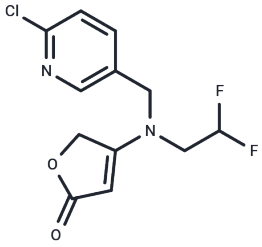
Data Sheet (Cat.No.T74394)

TargetMol

Flupyradifurone

Chemical Properties



CAS No. : 951659-40-8

Formula: C12H11ClF2N2O2

Molecular Weight: 288.68

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	Flupyradifurone (flupyradifurone) is a systemic insecticide and nicotinic acetylcholine receptor (nAChR) agonist that acts by interfering with the nervous system of insects.
Targets(IC50)	AChR
In vitro	Flupyradifurone acts as an agonist of nicotinic acetylcholine receptors (nAChRs) in insect nervous systems during in vitro electrophysiological studies. Flupyradifurone causes neuronal depolarization, disrupting nerve signal transmission and resulting in insect death[1].
In vivo	In vivo studies in honey bees (Apis mellifera) show that oral administration of Flupyradifurone (1.2-3.9 μg/bee) causes transient but reversible neurobehavioral symptoms (e.g., tremors and disorientation) without mortality or long-term effects. Flupyradifurone also demonstrates high insecticidal activity against agricultural pests like whiteflies, aphids, and flea beetles, with strong efficacy in field trials[1].

Solubility Information

Solubility	DMSO: 80 mg/mL (277.12 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: 3.3 mg/mL (11.43 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	3.464 mL	17.3202 mL	34.6404 mL
5 mM	0.6928 mL	3.464 mL	6.9281 mL
10 mM	0.3464 mL	1.732 mL	3.464 mL
50 mM	0.0693 mL	0.3464 mL	0.6928 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

Guo Y, et al. The Effects of Exposure to Flupyradifurone on Survival, Development, and Foraging Activity of Honey Bees (Apis mellifera L.) under Field Conditions. Insects. 2021 Apr 16;12(4):357.