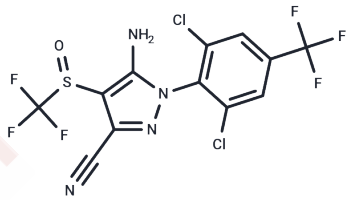
Data Sheet (Cat.No.T2196)

TargetMol

Fipronil

Chemical Properties



CAS No. : 120068-37-3

Formula: C12H4Cl2F6N4OS

Molecular Weight: 437.15

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	Fipronil (Fluocyanobenpyrazole) is a broad-use insecticide that belongs to the phenylpyrazole chemical family. Fipronil is a broad-spectrum insecticide that disrupts the insect central nervous system by blocking GABA-gated chloride channels and glutamate-gated chloride (GluCl) channels, resulting in central nervous system toxicity. This causes hyperexcitation of contaminated insects' nerves and muscles. Specificity of fipronil on insects may come from a better efficacy on GABA receptor, but also because GluCl channels do not exist in mammals.
Targets(IC50)	Apoptosis,GluCls,GABA Receptor,Cytochromes P450

Solubility Information

Solubility	DMSO: 45 mg/mL (102.94 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: 2 mg/mL (4.58 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	2.2875 mL	11.4377 mL	22.8754 mL
5 mM	0.4575 mL	2.2875 mL	4.5751 mL
10 mM	0.2288 mL	1.1438 mL	2.2875 mL
50 mM	0.0458 mL	0.2288 mL	0.4575 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

Zaluski R, et al. Environ Toxicol Chem. 2015 May;34(5):1062-9.
Li B J, Wang K K, Yu Y, et al.PxRdl2 dsRNA increased the insecticidal activities of GABAR-targeting compounds against Plutella xylostella.Pesticide Biochemistry and Physiology.2023: 105548.
Wang K, Li B, Yu Y, et al. Bacterial Rdl2 dsRNA increased the insecticidal activity of GABAR blockers and allosteric modulators against Plutella xylostella[J]. bioRxiv. 2021