

Chlorantraniliprole

Chemical Properties

CAS No. : 500008-45-7

Formula: C₁₈H₁₄BrCl₂N₅O₂

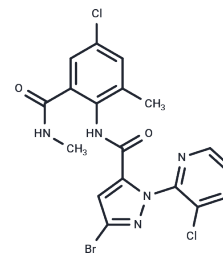
Molecular Weight: 483.15

Storage:

Keep away from moisture, 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	Chlorantraniliprole (Rynaxypyr) is an insecticide. Chlorantraniliprole potently and selectively activates insect ryanodine receptor, with EC ₅₀ s of 40 nM and 50 nM for <i>Drosophila melanogaster</i> and <i>H. virescens</i> ryanodine receptor, and 300-fold more potent than that in the mouse myoblast cell line, C2C12 (EC ₅₀ , 14 μM).
Targets(IC50)	Others
In vitro	Chlorantraniliprole potently and selectively activates insect ryanodine receptor. Chlorantraniliprole actions by release of intracellular Ca ²⁺ stores mediated by the ryanodine receptor. Chlorantraniliprole is 300-fold less potent against ryanodine receptor (RyRs) in the mouse myoblast cell line, C2C12 (EC ₅₀ , 14 μM), than in insect RyRs from <i>Drosophila melanogaster</i> and <i>H. virescens</i> (EC ₅₀ , 40 nM, 50 nM), and shows little selectivity at the rat cell line RyR2 (EC ₅₀ , >100 μM)[1].
In vivo	Chlorantraniliprole exhibits low acute toxicity in mammals, with rats demonstrating an acute oral LD ₅₀ exceeding 5000 mg/kg. Additionally, it shows minimal to no toxicity in 90-day studies, even when administered at doses up to 1500 mg/kg/day[1].

Solubility Information

Solubility	DMSO: 70 mg/mL (144.88 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 (4.14 mM), Sonication is recommended. <i>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.</i>

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.0698 mL	10.3488 mL	20.6975 mL
5 mM	0.414 mL	2.0698 mL	4.1395 mL
10 mM	0.207 mL	1.0349 mL	2.0698 mL
50 mM	0.0414 mL	0.207 mL	0.414 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

George P.Lahm, et al. Rynaxypyr: A new insecticidal anthranilic diamide that acts as a potent and selective ryanodine receptor activator. *Bioorganic & Medicinal Chemistry Letters*. 2007 Nov 15;17(22):6274-6279.

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.

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