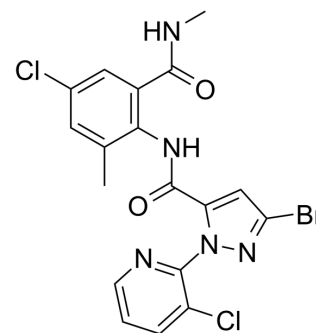


Chlorantraniliprole

Cat. No.:	HY-112820		
CAS No.:	500008-45-7		
Molecular Formula:	C ₁₈ H ₁₄ BrCl ₂ N ₅ O ₂		
Molecular Weight:	483.15		
Target:	Others		
Pathway:	Others		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	2 years
		-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 62.5 mg/mL (129.36 mM)
 * "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent		1 mg	5 mg	10 mg
	Concentration	Mass			
	1 mM		2.0698 mL	10.3488 mL	20.6975 mL
	5 mM		0.4140 mL	2.0698 mL	4.1395 mL
	10 mM		0.2070 mL	1.0349 mL	2.0698 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
 Solubility: ≥ 2.08 mg/mL (4.31 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
 Solubility: 2.08 mg/mL (4.31 mM); Clear solution; Need warming

BIOLOGICAL ACTIVITY

Description

Chlorantraniliprole is an insecticide that potently and selectively activates insect ryanodine receptor, with EC₅₀s of 40 nM and 50 nM for *Drosophila melanogaster* and *H. virescens* ryanodine receptor, and -300-fold more potent than that in the mouse myoblast cell line, C2C12 (EC₅₀, 14 μM).

IC₅₀ & Target

EC₅₀: 40 nM (*Drosophila melanogaster* Ryanodine receptor), 50 nM (*H. virescens* Ryanodine receptor), 14 μM (Ryanodine receptor, in C2C12 cells)

In Vitro

Chlorantraniliprole is an insecticide that potently and selectively activates insect ryanodine receptor. Chlorantraniliprole actions by release of intracellular Ca²⁺ stores mediated by the ryanodine receptor. Chlorantraniliprole is -300-fold less

potent against ryanodine receptor (RyRs) in the mouse myoblast cell line, C2C12 (EC₅₀, 14 μM), than in insect RyRs from *Drosophila melanogaster* and *H. virescens* (EC₅₀, 40 nM, 50 nM), and shows little selectivity at the rat cell line RyR2 (EC₅₀, >100 μM)^[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

Chlorantraniliprole has low acute mammalian toxicity with an acute oral LD₅₀ of >5000 mg/kg in rats, and little to no toxicity in 90-day studies, at dosing as high as 1500 mg/kg/day^[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- J Agric Food Chem. 2023 Jan 27.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. 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.

Caution: Product has not been fully validated for medical applications. For research use only.

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