Lotilaner

Cat. No.: HY-116564

CAS No.: 1369852-71-0

Molecular Formula: $C_{20}H_{14}Cl_3F_6N_3O_3S$

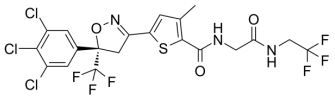
Molecular Weight: 596.76

Target: Parasite; GABA Receptor

Pathway: Anti-infection; Membrane Transporter/Ion Channel; Neuronal Signaling

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 : ≥ 100 mg/mL (167.57 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	1.6757 mL	8.3786 mL	16.7572 mL
5 mM	0.3351 mL	1.6757 mL	3.3514 mL
10 mM	0.1676 mL	0.8379 mL	1.6757 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (4.19 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (3.49 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Lotilaner is a parasiticide, acts as a potent non-competitive antagonist of insects GABACl receptors, with an IC_{50} of 23.84 nM for Drosophila melanogaster GABA receptor. No effect on a dog GABAA receptor[1].

IC_{50} & Target

IC50: 23.84 nM (DmS-GABA), 38.25 nM (DmR2-GABA), 52.40 nM (Ls-GABA1), 36.79 nM (Rm-GABA)[1]

In Vitro

Lotilaner shows IC_{50}s of 38.25 ± 3.75, 52.40 ± 4.54, 36.79 ± 4.39 nM for Drosophila melanogaster dieldrin/fipronil-resistant forms (DmR2), Lepeophtheirus salmonis (Ls) and Rhipicephalus microplus (Rm) GABACl receptors, respectively[1].

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

REFERENCES

[1]. Lotilaner, et al. The novel isoxazoline ectoparasiticide lotilaner (Credelio™): a non-competitive antagonist specific to invertebrates γ-aminobutyric acid-gated chloride channels (GABACls). Parasit Vectors. 2017 Nov 1;10(1):530.

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