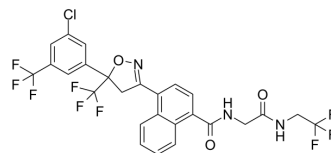


## Afoxolaner

<b>Cat. No.:</b>	HY-16974	
<b>CAS No.:</b>	1093861-60-9	
<b>Molecular Formula:</b>	C <sub>26</sub> H <sub>17</sub> ClF <sub>9</sub> N <sub>3</sub> O <sub>3</sub>	
<b>Molecular Weight:</b>	625.87	
<b>Target:</b>	GABA Receptor; Chloride Channel; Parasite	
<b>Pathway:</b>	Membrane Transporter/Ion Channel; Neuronal Signaling; Anti-infection	
<b>Storage:</b>	Powder	-20°C 3 years 4°C 2 years
	In solvent	-80°C 6 months -20°C 1 month



### SOLVENT & SOLUBILITY

#### In Vitro

DMSO : ≥ 250 mg/mL (399.44 mM)  
\* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent	1 mg	5 mg	10 mg
	Concentration			
	1 mM	1.5978 mL	7.9889 mL	15.9778 mL
	5 mM	0.3196 mL	1.5978 mL	3.1956 mL
	10 mM	0.1598 mL	0.7989 mL	1.5978 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: ≥ 2.25 mg/mL (3.59 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil  
Solubility: ≥ 2.25 mg/mL (3.59 mM); Clear solution

### BIOLOGICAL ACTIVITY

#### Description

Afoxolaner is an orally active isoxazoline insecticide/acaricide against *Ixodes scapularis* in dogs. Afoxolaner acts on the insect  $\gamma$ -aminobutyric acid receptor (GABA) and glutamate receptors, inhibiting GABA & glutamate-regulated uptake of chloride ions, resulting in excess neuronal stimulation and death of the arthropod<sup>[1][2]</sup>.

#### In Vivo

A single oral treatment with a dose approaching the minimum effective dose of afoxolaner (2.5mg/kg) eliminated the pre-existing infestations of *I. scapularis* ticks and controlled weekly re-infestations, with efficacy between 98% and 100% recorded until Day 23 and 94% at Day 30<sup>[1]</sup>.  
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

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## REFERENCES

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- [1]. Mitchell EB, et al. Efficacy of afoxolaner against Ixodes scapularis ticks in dogs. *Vet Parasitol.* 2014 Apr 2;201(3-4):223-5.
- [2]. Beugnet F, et al. Afoxolaner against fleas: immediate efficacy and resultant mortality after short exposure on dogs. *Parasite.* 2014;21:42.
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**Caution: Product has not been fully validated for medical applications. For research use only.**

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