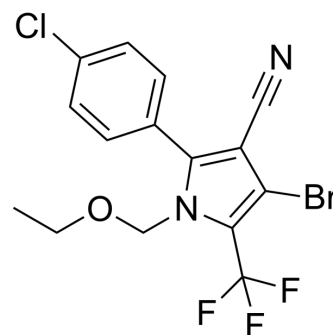


## Chlorfenapyr

<b>Cat. No.:</b>	HY-B0840		
<b>CAS No.:</b>	122453-73-0		
<b>Molecular Formula:</b>	C <sub>15</sub> H <sub>11</sub> BrClF <sub>3</sub> N <sub>2</sub> O		
<b>Molecular Weight:</b>	407.61		
<b>Target:</b>	Parasite; Oxidative Phosphorylation		
<b>Pathway:</b>	Anti-infection; Others		
<b>Storage:</b>	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	2 years
		-20°C	1 year



### SOLVENT & SOLUBILITY

<b>In Vitro</b>	DMSO : 250 mg/mL (613.33 mM; Need ultrasonic)				
		Solvent Concentration	Mass 1 mg	5 mg	10 mg
	<b>Preparing Stock Solutions</b>	1 mM	2.4533 mL	12.2666 mL	24.5333 mL
		5 mM	0.4907 mL	2.4533 mL	4.9067 mL
10 mM		0.2453 mL	1.2267 mL	2.4533 mL	
Please refer to the solubility information to select the appropriate solvent.					
<b>In Vivo</b>	1. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 6.25 mg/mL (15.33 mM); Clear solution  2. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 6.25 mg/mL (15.33 mM); Clear solution				

### BIOLOGICAL ACTIVITY

<b>Description</b>	Chlorfenapyr is a pyrrole insecticide. Chlorfenapyr has a mode of action: the mixed function oxidase oxidizes and removes the Nethoxymethyl group to form the active metabolite, CL 303268. Chlorfenapyr is used for termite control and crop protection against a variety of insect and mite pests <sup>[1][2]</sup> .
<b>IC<sub>50</sub> &amp; Target</b>	Mite
<b>In Vitro</b>	Chlorfenapyr is a pro-insecticide and oxidative removal of the N-ethoxymethyl group of Chlorfenapyr by mixed function oxidases leads to a toxic form identified as CL 303268 which functions to uncouple oxidative phosphorylation in the mitochondria, resulting in disruption of ATP production and loss of energy leading to cell dysfunction and subsequent death of the organism. This molecule has low mammalian toxicity <sup>[2]</sup> .

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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]. Byung Hyun Baek, et al. Chlorfenapyr-Induced Toxic Leukoencephalopathy with Radiologic Reversibility: A Case Report and Literature Review. Korean J Radiol. 2016 Mar-Apr;17(2):277-80.
- [2]. Kamaraju Raghavendra, et al. Chlorfenapyr: a new insecticide with novel mode of action can control pyrethroid resistant malaria vectors. Malar J. 2011 Jan 25;10:16.
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**Caution: Product has not been fully validated for medical applications. For research use only.**

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