

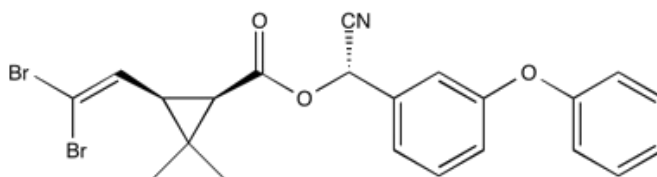
**Catalog # 10-3103**

**Deltamethrin**

CAS# 52918-63-5

(S)- $\alpha$ -Cyano-3-phenoxybenzyl (1R, 3R)-3-(2,2-dibromovinyl)-2,2-dimethylcyclopropanecarboxylate

Lot # X101923



Reported to be an inhibitor of calcineurin (PP2B),  $IC_{50}$ ~100 pM<sup>1</sup> but this activity has been disputed<sup>2</sup>. Markedly enhances the expression of BDNF in cultured rat cortical neurons and displays neurotrophic effects.<sup>3</sup> Produces antidepressant-like effects in mice.<sup>4</sup> Blocks the spontaneous down-regulation of Nav1.8 sodium channels expressed in *Xenopus* oocytes.<sup>5</sup>

- 1) Enan *et al.* (1992), *Specific inhibition of calcineurin by type II synthetic pyrethroid insecticides*; *Biochem. Pharmacol.*, **43** 1777
- 2) Swingle *et al.* (2007), *Small-molecules inhibitors of ser/thr protein phosphatases: specificity, use and common forms of abuse*; *Methods Mol. Biol.*, **365** 23
- 3) Ihara *et al.* (2012), *Deltamethrin, a type II pyrethroid insecticide, has neurotrophic effects on neurons with continuous activation of the Bdnf promoter*; *Neuropharmacology*, **62** 1091
- 4) Takasaki *et al.* (2013), *Type II pyrethroid deltamethrin produces antidepressant-like effects in mice*; *Behav. Brain Res.*, **257** 182
- 5) Choi & Soderlund (2004), *Cyclosporin A and deltamethrin block the downregulation of Nav1.8 sodium channels expressed in Xenopus oocytes*; *Neurosci. Lett.*, **367** 389

**PHYSICAL DATA**

Molecular Weight:	505.20
Molecular Formula:	C <sub>22</sub> H <sub>19</sub> Br <sub>2</sub> NO <sub>3</sub>
Purity:	98% by TLC and GC
	NMR: (Conforms)
Solubility:	DMSO (up to 50 mg/ml)
Physical Description:	White solid
Storage and Stability:	Store as supplied desiccated at -20°C for up to 1 year from the date of purchase. Solutions in DMSO may be stored at -20°C for up to 1 month.

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