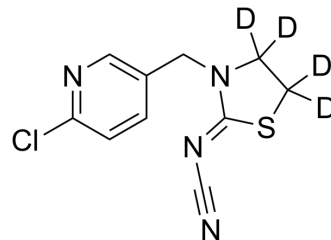


## Thiacloprid-d<sub>4</sub>

Cat. No.:	HY-B1953S
CAS No.:	1793071-39-2
Molecular Formula:	C <sub>10</sub> H <sub>5</sub> D <sub>4</sub> ClN <sub>4</sub> S
Molecular Weight:	256.75
Target:	DNA Stain; Parasite
Pathway:	Cell Cycle/DNA Damage; Anti-infection
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



### BIOLOGICAL ACTIVITY

<b>Description</b>	Thiacloprid-d <sub>4</sub> is the deuterium labeled Thiacloprid[1]. Thiacloprid, a chloronicotinyl insecticide, is targeted chiefly to control aphid pest species in orchards and vegetables[1]. Thiacloprid destabilizes DNA. Thiacloprid changes the structure and stability of DNA through binding into the minor groove by hydrophobic or hydrogen interactions[2].
<b>In Vitro</b>	Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs <sup>[1]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

### REFERENCES

- [1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. *Ann Pharmacother*. 2019 Feb;53(2):211-216.
- [2]. Schuld, M., et al. Effects of Thiacloprid, a New Chloronicotinyl Insecticide, On the Egg Parasitoid *Trichogramma cacaeciae*. *Ecotoxicology* 9, 197-205 (2000).
- [3]. Verebová V, Želonková K, Holečková B, Staničová J. The effect of neonicotinoid insecticide thiacloprid on the structure and stability of DNA. *Physiol Res*. 201968(Suppl 4):S459-S466.

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

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