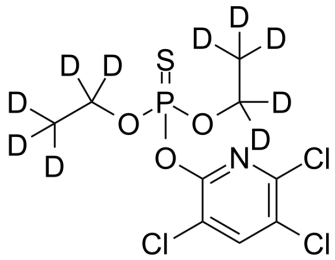
Chlorpyrifos-d_{10}

Cat. No.:	HY-B0815S
CAS No.:	285138-81-0
Molecular Formula:	$C_9HD_{10}Cl_3NO_3PS$
Molecular Weight:	360.65
Target:	Cholinesterase (ChE)
Pathway:	Neuronal Signaling
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

H2O : 100 mg/mL (277.28 mM; Need ultrasonic)
DMSO : 50 mg/mL (138.64 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.7728 mL	13.8639 mL	27.7277 mL
5 mM	0.5546 mL	2.7728 mL	5.5455 mL
10 mM	0.2773 mL	1.3864 mL	2.7728 mL

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

BIOLOGICAL ACTIVITY

Description

Chlorpyrifos-d_{10} is the deuterium labeled Chlorpyrifos. Chlorpyrifos is an organophosphate insecticide that is classified as a phosphorothionate. The oxon metabolite of Chlorpyrifos is an inhibitor of acetylcholinesterase (AChE), affecting neurological function in insects, humans, and other animals. The Chlorpyrifos oxon (CPO) metabolite is hydrolyzed by the plasma enzyme paraoxonase 1 (PON1), and susceptibility to neurotoxicity associated with CPO exposure is mitigated by PON1 overexpression.

In Vitro

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[1].

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;53(2):211-216.

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