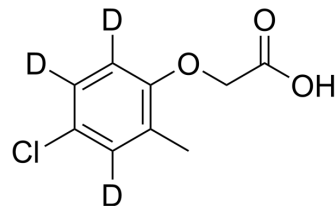


MCPA-d₃

Cat. No.:	HY-B0859S1		
CAS No.:	352431-14-2		
Molecular Formula:	C ₉ H ₆ D ₃ ClO ₃		
Molecular Weight:	203.64		
Target:	Isotope-Labeled Compounds		
Pathway:	Others		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro	DMSO : 50 mg/mL (245.53 mM; Need ultrasonic)				
		Solvent Concentration	Mass 1 mg	5 mg	10 mg
	Preparing Stock Solutions	1 mM	4.9106 mL	24.5531 mL	49.1063 mL
		5 mM	0.9821 mL	4.9106 mL	9.8213 mL
10 mM		0.4911 mL	2.4553 mL	4.9106 mL	
Please refer to the solubility information to select the appropriate solvent.					
In Vivo	<ol style="list-style-type: none"> Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 1.25 mg/mL (6.14 mM); Clear solution Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 1.25 mg/mL (6.14 mM); Clear solution Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 1.25 mg/mL (6.14 mM); Clear solution 				

BIOLOGICAL ACTIVITY

Description	MCPA-d ₃ is the deuterium labeled MCPA[1]. MCPA is a phenoxy herbicide, and widely used to control annual and perennial broad leaved weeds, including poppy, thistles and docks, in crops such as cereals, rice, linseed, flax, grassland and turf[2][3].
In Vitro	<p>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].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>

REFERENCES

- [1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. *Ann Pharmacother*. 2019 Feb;53(2):211-216.
- [2]. Munira S, et, al. Sorption and desorption of glyphosate, MCPA and tetracycline and their mixtures in soil as influenced by phosphate. *J Environ Sci Health B*. 2017 Dec 2;52(12):887-895.
- [3]. Kwiecien I, et, al. Biodegradable PBAT/PLA Blend with Bioactive MCPA-PHBV Conjugate Suppresses Weed Growth. *Biomacromolecules*. 2018 Feb 12;19(2):511-520.
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Caution: Product has not been fully validated for medical applications. For research use only.

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