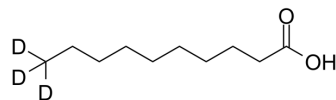


## Decanoic acid-d<sub>3</sub>

<b>Cat. No.:</b>	HY-W015309S
<b>CAS No.:</b>	102611-15-4
<b>Molecular Formula:</b>	C <sub>10</sub> H <sub>17</sub> D <sub>3</sub> O <sub>2</sub>
<b>Molecular Weight:</b>	175.28
<b>Target:</b>	iGluR
<b>Pathway:</b>	Membrane Transporter/Ion Channel; Neuronal Signaling
<b>Storage:</b>	4°C, sealed storage, away from moisture and light * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



### SOLVENT & SOLUBILITY

<b>In Vitro</b>	DMSO : 100 mg/mL (570.52 mM; Need ultrasonic)					
	<b>Preparing Stock Solutions</b>	<b>Solvent</b>	<b>Mass</b>	<b>1 mg</b>	<b>5 mg</b>	<b>10 mg</b>
		<b>Concentration</b>				
		<b>1 mM</b>		5.7052 mL	28.5258 mL	57.0516 mL
		<b>5 mM</b>		1.1410 mL	5.7052 mL	11.4103 mL
	<b>10 mM</b>		0.5705 mL	2.8526 mL	5.7052 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 >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.5 mg/mL (14.26 mM); Clear solution					
	2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (14.26 mM); Clear solution					
	3. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.5 mg/mL (14.26 mM); Clear solution					

### BIOLOGICAL ACTIVITY

<b>Description</b>	Decanoic acid-d <sub>3</sub> is the deuterium labeled Decanoic acid. Decanoic acid, a component of medium chain triglycerides, is a brain-penetrant and non-competitive inhibitor of AMPA receptor. Decanoic acid has antiseizure effects[1][2][3].
<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.

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## REFERENCES

- [1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. *Ann Pharmacother*. 2019;53(2):211-216.
- [2]. Chang P, et al. Seizure control by decanoic acid through direct AMPA receptor inhibition. *Brain*. 2016 Feb;139(Pt 2):431-43.
- [3]. Kim S, et, al. Selective production of decanoic acid from iterative reversal of  $\beta$ -oxidation pathway. *Biotechnol Bioeng*. 2018 May;115(5):1311-1320.
- [4]. Boison D, et, al. New insights into the mechanisms of the ketogenic diet. *Curr Opin Neurol*. 2017 Apr;30(2):187-192.
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**Caution: Product has not been fully validated for medical applications. For research use only.**

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