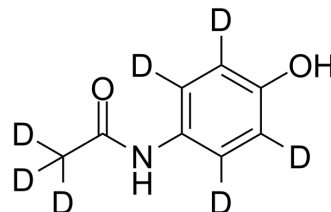


## Acetaminophen-d<sub>7</sub>

<b>Cat. No.:</b>	HY-66005S2		
<b>CAS No.:</b>	1219798-53-4		
<b>Molecular Formula:</b>	C <sub>8</sub> H <sub>2</sub> D <sub>7</sub> NO <sub>2</sub>		
<b>Molecular Weight:</b>	158.21		
<b>Target:</b>	COX; Endogenous Metabolite; Histone Acetyltransferase		
<b>Pathway:</b>	Immunology/Inflammation; Metabolic Enzyme/Protease; Epigenetics		
<b>Storage:</b>	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



### SOLVENT & SOLUBILITY

<b>In Vitro</b>	DMSO : 100 mg/mL (632.07 mM; Need ultrasonic)			
		Solvent Concentration	Mass	
			1 mg	5 mg
	<b>Preparing Stock Solutions</b>		10 mg	
	<b>1 mM</b>	6.3207 mL	31.6036 mL	63.2071 mL
	<b>5 mM</b>	1.2641 mL	6.3207 mL	12.6414 mL
	<b>10 mM</b>	0.6321 mL	3.1604 mL	6.3207 mL
Please refer to the solubility information to select the appropriate solvent.				
<b>In Vivo</b>	<ol style="list-style-type: none"> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 40% PEG300 &gt;&gt; 5% Tween-80 &gt;&gt; 45% saline Solubility: ≥ 2.5 mg/mL (15.80 mM); Clear solution</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (15.80 mM); Clear solution</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% corn oil Solubility: ≥ 2.5 mg/mL (15.80 mM); Clear solution</li> </ol>			

### BIOLOGICAL ACTIVITY

<b>Description</b>	Acetaminophen-d <sub>7</sub> is the deuterium labeled Acetaminophen. Acetaminophen (Paracetamol) is a selective cyclooxygenase-2 (COX-2) inhibitor with an IC <sub>50</sub> of 25.8 μM; is a widely used antipyretic and analgesic agent. Acetaminophen is a potent hepatic N-acetyltransferase 2 (NAT2) inhibitor.
<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> .

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MCE has not independently confirmed the accuracy of these methods. They are for reference only.

## REFERENCES

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- [1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. *Ann Pharmacother.* 2019;53(2):211-216.
  - [2]. Hinz, B, et al. Acetaminophen (paracetamol) is a selective cyclooxygenase-2 inhibitor in man. *FASEB J*, 2008. 22(2): p. 383-90.
  - [3]. Miroslav Dinić, et al. Lactobacillus fermentum Postbiotic-induced Autophagy as Potential Approach for Treatment of Acetaminophen Hepatotoxicity. *Front Microbiol.* 2017 Apr 6;8:594.
  - [4]. Uchida NS, et al. Hepatoprotective Effect of Citral on Acetaminophen-Induced Liver Toxicity in Mice. *Evid Based Complement Alternat Med.* 2017;2017:1796209.
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**Caution: Product has not been fully validated for medical applications. For research use only.**

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