Product Data Sheet

Product Name: Acetaminophen-d3
Cat. No.: GC64137

Chemical Properties

Cas. No.	60902-28-5		
Formula	C8H6D3NO2	M.Wt	154.18
Solubility	DMSO : 250 mg/mL (1621.48 mM; Need ultrasonic); H_2O : 10 mg/mL (64.86 mM; Need ultrasonic)	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure	Acetaminophen-d3		

Background

Acetaminophen-d3 (Paracetamol-d3) is the deuterium labeled Acetaminophen. Acetaminophen (Paracetamol) is a selective cyclooxygenase-2 (COX-2) inhibitor with an IC50 of 25.8 μM; is a widely used antipyretic and analgesic agent[1][2][3]. Acetaminophen is a potent hepatic N-acetyltransferase 2 (NAT2) inhibitor[4].

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].

[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 Dini?, et al. Lactobacillus fermentum Postbiotic-induced Autophagy as Potential Approach for Treatment ofAcetaminophen Hepatotoxicity. Front Microbiol. 2017 Apr 6;8:594.

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[4]. Uchida NS, et al. Hepatoprotective Effect of Citral on Acetaminophen-Induced Liver Toxicity in Mice. Evid Based Complement Alternat Med. 2017;2017:1796209.
[5]. Rothen JP, et al. Acetaminophen is an inhibitor of hepatic N-acetyltransferase 2 in vitro and in vivo. Pharmacogenetics. 1998 Dec;8(6):553-9.

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