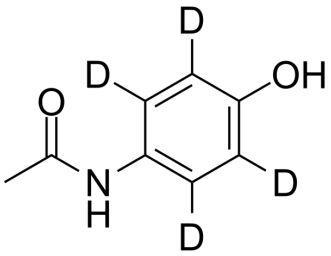
Acetaminophen-d4

Cat. No.:	HY-66005S
CAS No.:	64315-36-2
Molecular Formula:	$C_8H_5D_4NO_2$
Molecular Weight:	155.19
Target:	COX; Histone Acetyltransferase; Endogenous Metabolite
Pathway:	Immunology/Inflammation; Epigenetics; Metabolic Enzyme/Protease
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 6 months -20°C 1 month



BIOLOGICAL ACTIVITY

Description	Acetaminophen-d4 is the deuterium labeled Acetaminophen. Acetaminophen (Paracetamol) is a selective cyclooxygenase-2 (COX-2) inhibitor with an IC_{50} 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].
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.

[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 ofAcetaminophen 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.

[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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