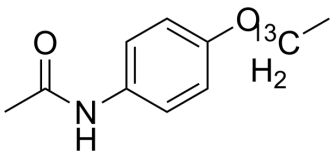
Phenacetin-13C

Cat. No.:	HY-B0476S1
CAS No.:	72156-72-0
Molecular Formula:	$C_9{}^{13}CH_{13}NO_2$
Molecular Weight:	180.21
Target:	COX
Pathway:	Immunology/Inflammation
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Phenacetin-^{13}C is the ^{13}C labeled Phenacetin[1]. Phenacetin (Acetophenetidin) is a non-opioid analgesic/antipyretic agent. Phenacetin is a selective COX-3 inhibitor. Phenacetin is used as probe of cytochrome P450 enzymes CYP1A2 in human liver microsomes and in rats[2][3][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 Feb;53(2):211-216.

[2]. Chandrasekharan NV, et al. COX-3, a cyclooxygenase-1 variant inhibited by acetaminophen and other analgesic/antipyretic drugs: cloning, structure, and expression. Proc Natl Acad Sci U S A. 2002 Oct 15;99(21):13926-31.

[3]. Xiao-Meng He, et al. Effects of long-term smoking on the activity and mRNA expression of CYP isozymes in rats. J Thorac Dis. 2015 Oct 7(10): 1725–1731.

[4]. Na Gao, et al. Inhibition of Baicalin on Metabolism of Phenacetin, a Probe of CYP1A2, in Human Liver Microsomes and in Rats. PLoS One. 2014 9(2): e89752.

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