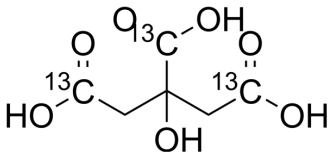
Citric acid-$^{13}C_3$

Cat. No.:	HY-N1428S3
CAS No.:	302912-06-7
Molecular Formula:	$C_3{}^{13}C_3H_8O_7$
Molecular Weight:	195.1
Target:	Apoptosis; Endogenous Metabolite; Antibiotic
Pathway:	Apoptosis; Metabolic Enzyme/Protease; Anti-infection
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Citric acid-$^{13}C_3$ is the ^{13}C labeled Citric acid[1]. Citric acid is a natural preservative and food tartness enhancer. Citric acid induces apoptosis and cell cycle arrest at G2/M phase and S phase in HaCaT cells. Citric acid cause oxidative damage of the liver by means of the decrease of antioxidative enzyme activities. Citric acid causes renal toxicity in mice[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]. Chen X, et al. Study on injury effect of food additive citric acid on liver tissue in mice. Cytotechnology. 2014 Mar;66(2):275-82.

[3]. Chen X, Lv Q, Liu Y, Deng W. Effects of the food additive, citric acid, on kidney cells of mice. Biotech Histochem. 2015 Jan90(1):38-44.

[4]. Ying TH, et al. Citric acid induces cell-cycle arrest and apoptosis of human immortalized keratinocyte cell line (HaCaT) via caspase- and mitochondrial-dependent signaling pathways. Anticancer Res. 2013 Oct33(10):4411-20.

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