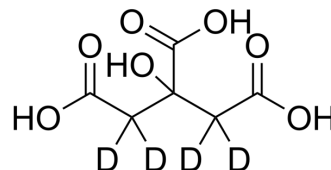


Citric acid-d₄

Cat. No.:	HY-N1428S
CAS No.:	147664-83-3
Molecular Formula:	C ₆ H ₄ D ₄ O ₇
Molecular Weight:	196.15
Target:	Apoptosis; Bacterial; Endogenous Metabolite; Antibiotic
Pathway:	Apoptosis; Anti-infection; Metabolic Enzyme/Protease
Storage:	4°C, sealed storage, away from moisture and light * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (509.81 mM; Need ultrasonic)
H₂O : 100 mg/mL (509.81 mM; Need ultrasonic)
DMSO : 100 mg/mL (509.81 mM; Need ultrasonic)
H₂O : 100 mg/mL (509.81 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent	1 mg	5 mg	10 mg
	Concentration	Mass		
1 mM		5.0981 mL	25.4907 mL	50.9814 mL
5 mM		1.0196 mL	5.0981 mL	10.1963 mL
10 mM		0.5098 mL	2.5491 mL	5.0981 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

Citric acid-d₄ is the deuterium labeled Citric acid. Citric acid is a weak organic tricarboxylic acid found in citrus fruits. Citric acid is a natural preservative and food tartness enhancer.

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]. 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 Oct;33(10):4411-20.

[3]. Abdel-Salam OM, et al. Citric acid effects on brain and liver oxidative stress in lipopolysaccharide-treated mice. *J Med Food.* 2014 May;17(5):588-98.

[4]. Lacour B, et al. Stimulation by citric acid of calcium and phosphorus bioavailability in rats fed a calcium-rich diet. *Miner Electrolyte Metab.* 1997;23(2):79-87.

[5]. Nagai R, et al. Citric acid inhibits development of cataracts, proteinuria and ketosis in streptozotocin (type 1) diabetic rats. *Biochem Biophys Res Commun.* 2010 Feb 26;393(1):118-22.

Caution: Product has not been fully validated for medical applications. For research use only.

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