
Product Data Sheet

Product Name: Citric acid-d4

Cat. No.: GC68051

Chemical Properties

Cas. No. 147664-83-3

Formula $C_6H_4D_4O_7$

M.Wt 196.15

Solubility H_2O : 100 mg/mL (509.81 mM; Need ultrasonic); H_2O : Store at 2-
100 mg/mL (509.81 mM; Need ultrasonic); DMSO : 100 Storage 8°C, protect
mg/mL (509.81 mM; Need ultrasonic) from light

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C 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 **Background**

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.

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]. 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.

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

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[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.

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