
Product Data Sheet

Product Name: α -Lipoic Acid-d5

Cat. No.: GC63749

Chemical Properties

Cas. No. 1189471-66-6

Formula $C_8H_9D_5O_2S_2$

M.Wt 211.36

Solubility DMSO : 100 mg/mL (473.13 mM; Need ultrasonic); H₂O : 0.1 mg/mL (0.47 mM; Need ultrasonic)Store
Storage at -
20°C

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**

α -Lipoic Acid-d5 (Thioctic acid-d5) is the deuterium labeled α -Lipoic Acid. α -Lipoic Acid is an antioxidant, which is an essential cofactor of mitochondrial enzyme complexes. α -Lipoic Acid inhibits NF- κ B-dependent HIV-1 LTR activation[1][2][3]. α -Lipoic Acid induces endoplasmic reticulum (ER) stress-mediated apoptosis in hepatoma cells[4].

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]. Xiao L, et al. Activity of the dietary antioxidant ergothioneine in a virus gene-based assay for inhibitors of HIV transcription. *Biofactors.* 2006;27(1-4):157-65.; Yang Y, et al. Alpha-lipoic acid improves high-fat diet-induced hepatic steatosis by modulating the transcription factors SREBP-1, FoxO1 and Nrf2 via the SIRT1/LKB1/AMPK pathway. *J Nutr Biochem.* 2014

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

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Nov;25(11):1207-1217.;Lei D, et al. Synergistic neuroprotective effect of rasagiline and idebenone against retinal ischemia-reperfusion injury via the Lin28-let-7-Dicer pathway. Oncotarget. 2018 Jan 30;9(15):12137-12153.;Pibiri M, et al. α -Lipoic acid induces Endoplasmic Reticulum stress-mediated apoptosis in hepatoma cells. Sci Rep. 2020 Apr 28;10(1):7139.

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