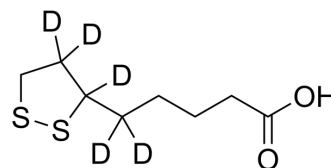


α -Lipoic Acid-d₅

Cat. No.:	HY-N0492S									
CAS No.:	1189471-66-6									
Molecular Formula:	C ₈ H ₉ D ₅ O ₂ S ₂									
Molecular Weight:	211.36									
Target:	NF- κ B; HIV; Mitochondrial Metabolism; Endogenous Metabolite; Apoptosis; Isotope-Labeled Compounds									
Pathway:	NF- κ B; Anti-infection; Metabolic Enzyme/Protease; Apoptosis; Others									
Storage:	<table border="0"> <tr> <td>Powder</td> <td>-20°C</td> <td>3 years</td> </tr> <tr> <td>In solvent</td> <td>-80°C</td> <td>6 months</td> </tr> <tr> <td></td> <td>-20°C</td> <td>1 month</td> </tr> </table>	Powder	-20°C	3 years	In solvent	-80°C	6 months		-20°C	1 month
Powder	-20°C	3 years								
In solvent	-80°C	6 months								
	-20°C	1 month								



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (473.13 mM; Need ultrasonic)
 DMSO : 100 mg/mL (473.13 mM; Need ultrasonic)
 H₂O : 0.1 mg/mL (0.47 mM; Need ultrasonic)
 H₂O : 0.1 mg/mL (0.47 mM; Need ultrasonic)

	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM	4.7313 mL	23.6563 mL	47.3126 mL
	5 mM	0.9463 mL	4.7313 mL	9.4625 mL
	10 mM	0.4731 mL	2.3656 mL	4.7313 mL

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

BIOLOGICAL ACTIVITY

Description

α -Lipoic 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].

IC₅₀ & Target

HIV-1

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

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