Dihydrolipoic Acid

MedChemExpress

®

HY-116807		
462-20-4		
C ₈ H ₁₆ O ₂ S ₂	0	
208.34	HS	
Reactive Oxygen Species	✓ ↑ ✓ ○ OH SH	
Immunology/Inflammation; Metabolic Enzyme/Protease; NF-кВ		
Pure form -20°C 3 years		
In solvent -80°C 6 months		
-20°C 1 month		
	HY-116807 $462-20-4$ $C_8H_{16}O_2S_2$ 208.34 Reactive Oxygen SpeciesImmunology/Inflammation; Metabolic Enzyme/Protease; NF- κ BPure form -20° C 3 yearsIn solvent -80° C -20° C1 month	

SOLVENT & SOLUBILITY

In Vitro	DMSO : 100 mg/mL (479.98 mM; Need ultrasonic)					
		Solvent Mass Concentration	1 mg	5 mg	10 mg	
	Preparing Stock Solutions	1 mM	4.7998 mL	23.9992 mL	47.9985 mL	
		5 mM	0.9600 mL	4.7998 mL	9.5997 mL	
		10 mM	0.4800 mL	2.3999 mL	4.7998 mL	
	Please refer to the so	lubility information to select the app	propriate solvent.			
In Vivo	1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 0.83 mg/mL (3.98 mM); Clear solution					
	2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 0.83 mg/mL (3.98 mM); Clear solution					
	3. Add each solvent o Solubility: ≥ 0.83 n	one by one: 10% DMSO >> 90% cor ng/mL (3.98 mM); Clear solution	n oil			

Description	Dihydrolipoic Acid (DHLA) is an excellent antioxidant capable of scavenging almost any oxygen-centered radical ^[1] . Dihydrolipoic acid exhibits anti-inflammatory properties in various diseases. Dihydrolipoic Acid exerts a preventive effect via ERK/Nrf2/HO-1/ROS/NLRP3 pathway in LPS-induced sickness behavior rats. Dihydrolipoic Acid can be used for the reaserch of depression ^[2] .			
In Vitro	Dihydrolipoic Acid is an antioxidant. DHLA is capable of scavenging •OH radicals and scavenging superoxide radical anions with a rate constant of 3.3×10 ⁵ M ⁻¹ s ⁻¹ . Dihydrolipoic Acid is an excellent antioxidant, and that is very important because O ₂ ^{**} is a relatively mild oxidant that is therefore much more selective and can be useful to discriminate between the antioxidant			

Product Data Sheet

	capacities of different substrates ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.		
In Vivo	Dihydrolipoic Acid (DH increases the expression NLRP3, caspase-1, and that can decrease oxid sickness behavior ^[2] . MCE has not independe	LA) treatment exerts preventive effects in LPS-induced sickness behavior rats. Dihydrolipoic Acid on of ERK, Nrf2, and HO-1 but decreases the ROS generation levels and reduces the expression of IL-1β in LPS-induced sickness behavior rats. Dihydrolipoic Acid is a reduced form of α-lipoic acid (LA) ative stress and act as a strong antioxidant ^[2] . Dihydrolipoic Acid treatment reverses the LPS-induced ently confirmed the accuracy of these methods. They are for reference only.	
	Animal Model:	Adult male Sprague-Dawley (SD) rats (weight, 200-220 g) ^[2]	
	Dosage:	15 mg/kg, 30 mg/kg, 60 mg/kg	
	Administration:	Injected intraperitoneally daily	
	Result:	Treatment with 30 mg/kg and 60 mg/kg improved the body weight gain as compared to the LPS group.	

REFERENCES

[1]. Romina Castañeda-Arriaga, et al. Lipoic acid and dihydrolipoic acid. A comprehensive theoretical study of their antioxidant activity supported by available experimental kinetic data. J Chem Inf Model. 2014 Jun 23;54(6):1642-52.

[2]. Hetao Bian, et al. Dihydrolipoic acid protects against lipopolysaccharide-induced behavioral deficits and neuroinflammation via regulation of Nrf2/HO-1/NLRP3 signaling in rat. J Neuroinflammation. 2020 May 25;17(1):166.

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

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