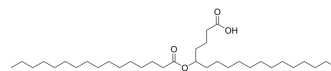


## 5-PAHSA

<b>Cat. No.:</b>	HY-116193		
<b>CAS No.:</b>	1481636-41-2		
<b>Molecular Formula:</b>	C <sub>34</sub> H <sub>66</sub> O <sub>4</sub>		
<b>Molecular Weight:</b>	538.89		
<b>Target:</b>	Endogenous Metabolite		
<b>Pathway:</b>	Metabolic Enzyme/Protease		
<b>Storage:</b>	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



### SOLVENT & SOLUBILITY

<b>In Vitro</b>	DMSO : 16.67 mg/mL (30.93 mM; ultrasonic and warming and heat to 80°C)				
		Solvent Concentration	Mass 1 mg	5 mg	10 mg
	<b>Preparing Stock Solutions</b>	1 mM	1.8557 mL	9.2783 mL	18.5567 mL
		5 mM	0.3711 mL	1.8557 mL	3.7113 mL
10 mM		0.1856 mL	0.9278 mL	1.8557 mL	
Please refer to the solubility information to select the appropriate solvent.					
<b>In Vivo</b>	1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: 1.67 mg/mL (3.10 mM); Clear solution; Need ultrasonic  2. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: 1.67 mg/mL (3.10 mM); Clear solution; Need ultrasonic				

### BIOLOGICAL ACTIVITY

<b>Description</b>	5-PAHSA increases insulin sensitivity, and has orally active anti-inflammatory and neuroprotective effects in mice HFD-induced diabetes mice. 5-PAHSA can be used for research of neurological dysfunction in diabetics <sup>[1][2][3]</sup> .
<b>In Vitro</b>	5-PAHSA (30 μM, 12 h) reduces the levels of ROS and induces autophagy in PC12 cells <sup>[1]</sup> . 5-PAHSA (20 μM, 2 days) reduces high insulin- and TNF-α-induced insulin resistance in HepG2 cells and 3T3-L1 cells <sup>[3]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
<b>In Vivo</b>	5-PAHSA (50 and 150 mg/kg, oral gavage, 30 days) inhibits lipid peroxidation in DB/DB mice <sup>[1]</sup> . 5-PAHSA (45 mg/kg, oral gavage, 3 days) stimulates De novo lipogenesis and lipid remodeling in epididymal WAT (eWAT) during cold exposure in mice <sup>[2]</sup> .

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MCE has not independently confirmed the accuracy of these methods. They are for reference only.

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## REFERENCES

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- [1]. Wang JT, et al. A novel palmitic acid hydroxy stearic acid (5-PAHSA) plays a neuroprotective role by inhibiting phosphorylation of the m-TOR-ULK1 pathway and regulating autophagy. *CNS Neurosci Ther.* 2021 Apr;27(4):484-496.
- [2]. Paluchova V, et al. Lipokine 5-PAHSA Is Regulated by Adipose Triglyceride Lipase and Primes Adipocytes for De Novo Lipogenesis in Mice. *Diabetes.* 2020 Mar;69(3):300-312.
- [3]. Wang YM, et al. High Glucose Concentration Impairs 5-PAHSA Activity by Inhibiting AMP-Activated Protein Kinase Activation and Promoting Nuclear Factor-Kappa-B-Mediated Inflammation. *Front Pharmacol.* 2019 Jan 7;9:1491.
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**Caution: Product has not been fully validated for medical applications. For research use only.**

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