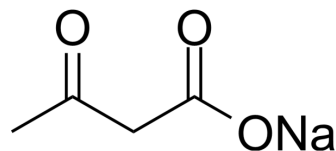


## Acetoacetic acid sodium

Cat. No.:	HY-112540B
CAS No.:	623-58-5
Molecular Formula:	C <sub>4</sub> H <sub>5</sub> NaO <sub>3</sub>
Molecular Weight:	124.07
Target:	Endogenous Metabolite
Pathway:	Metabolic Enzyme/Protease
Storage:	-20°C, stored under nitrogen, away from moisture * The compound is unstable in solutions, freshly prepared is recommended.



### SOLVENT & SOLUBILITY

In Vitro	H <sub>2</sub> O : ≥ 125 mg/mL (1007.50 mM) * "≥" means soluble, but saturation unknown.					
	Preparing Stock Solutions	Solvent Concentration	Mass	1 mg	5 mg	10 mg
			1 mM	8.0600 mL	40.2998 mL	80.5997 mL
			5 mM	1.6120 mL	8.0600 mL	16.1199 mL
			10 mM	0.8060 mL	4.0300 mL	8.0600 mL
Please refer to the solubility information to select the appropriate solvent.						
In Vivo	1. Add each solvent one by one: PBS Solubility: 100 mg/mL (806.00 mM); Clear solution; Need ultrasonic					
	2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 1.04 mg/mL (8.38 mM); Clear solution					
	3. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 1.04 mg/mL (8.38 mM); Clear solution					

### BIOLOGICAL ACTIVITY

Description	Acetoacetic acid sodium is a metabolite of non-esterified fatty acids, involved in the development of human diabetes. Acetoacetic acid sodium induces oxidative stress to inhibit the assembly of very low density lipoprotein in bovine hepatocytes <sup>[1]</sup> .
IC <sub>50</sub> & Target	Human Endogenous Metabolite
In Vitro	Acetoacetic acid sodium induces oxidative stress to inhibit the assembly of very low density lipoprotein in bovine hepatocytes <sup>[1]</sup> .

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?Acetoacetic acid (0.6, 2.4, 4.8 mM) increases malondialdehyde (MDA) content in high-dose group (GH) group, decreases mRNA expression of Mn SOD, Cu/Zn SOD, and glutathione peroxidase (GSH-Px) in all groups, lowers catalase (CAT) mRNA expression in medial-dose group (GM), and GH groups. In addition, Acetoacetic acid down-regulates the mRNA expression of apolipoprotein B100 (ApoB100), apolipoprotein E (ApoE), and low density lipoprotein receptor (LDLR). Thus, VLDL assembly is decreased and triglyceride (TG) accumulation is increased in these bovine hepatocytes<sup>[1]</sup>.

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

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## CUSTOMER VALIDATION

- J Nanobiotechnology. 2022 Mar 9;20(1):120.
- J Leukoc Biol. 2023 Mar 31;qiad035.

See more customer validations on [www.MedChemExpress.com](http://www.MedChemExpress.com)

## REFERENCES

[1]. Shi X, et al. Acetoacetic acid induces oxidative stress to inhibit the assembly of very low density lipoprotein in bovine hepatocytes. J Dairy Res. 2016 Nov;83(4):442-446.

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

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: [tech@MedChemExpress.com](mailto:tech@MedChemExpress.com)

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA