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Zuschläge

- Mindermengenzuschlag
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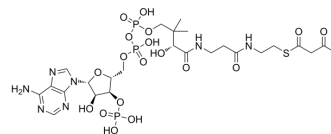
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Acetoacetyl-CoA

Cat. No.:	HY-N7392
CAS No.:	1420-36-6
Molecular Formula:	C ₂₅ H ₄₀ N ₇ O ₁₈ P ₃ S
Molecular Weight:	851.61
Target:	Biochemical Assay Reagents
Pathway:	Others
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Acetoacetyl CoA is the precursor of HMG-CoA in the mevalonate pathway. Acetoacetyl-CoA thiolase catalyzes the reaction to form acetoacetyl-CoA from two acetyl-CoA molecules. Acetoacetyl CoA is essential for cholesterol biosynthesis. Acetoacetyl-CoA is also an intermediate in the biological breakdown and synthesis of fatty acids ^{[1][2][3]} .
IC₅₀ & Target	Human Endogenous Metabolite
In Vitro	<p>The purified recombinant Msed_0389 and Msed_1423 catalyze the NAD-dependent oxidation of (S)-3-hydroxybutyryl-CoA to Acetoacetyl-CoA and are highly specific for their substrate (K_m of 2.6 μM and 5 μM, respectively)^[2].</p> <p>The homologous bifunctional protein is the only enzyme capable to convert crotonyl-CoA into Acetoacetyl-CoA in autotrophic Desulfurococcales (<i>Ignicoccus hospitalis</i>) and Thermoproteales (<i>Pyrobaculum neutrophilus</i>) that use the dicarboxylate/4-hydroxybutyrate cycle for CO₂ fixation^[2].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>

REFERENCES

- [1]. Miziorko HM. Enzymes of the mevalonate pathway of isoprenoid biosynthesis. *Arch Biochem Biophys*. 2011 Jan 15;505(2):131-43.
- [2]. Liu L, et al. Enzymes Catalyzing Crotonyl-CoA Conversion to Acetoacetyl-CoA During the Autotrophic CO₂ Fixation in *Metallosphaera sedula*. *Front Microbiol*. 2020 Mar 11;11:354.
- [3]. Feodor Lynen, et al. Enzymes of fatty acid metabolism. *Biochimica et Biophysica Acta*. Volume 12, Issues 1-2, October 1953, Pages 299-314.

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

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