

Acetoacetyl-CoA sodium hydrate

Chemical Properties

CAS No. :

Formula:

Molecular Weight:

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.

Biological Description

Description	Acetoacetyl CoA sodium hydrate is a precursor of HMG-CoA in the mevalonate pathway. The enzyme acetoacetyl-CoA thiolase catalyzes the formation of acetoacetyl CoA sodium hydrate from two acetyl-CoA molecules. This compound is crucial for cholesterol biosynthesis and serves as an intermediate in both fatty acid catabolism and synthesis.
Targets(IC50)	Endogenous Metabolite
In vitro	The purified recombinant enzymes Msed_0389 and Msed_1423 catalyze the NAD-dependent oxidation of (S)-3-hydroxybutyryl-CoA to acetoacetyl-CoA with high substrate specificity, having K _m values of 2.6 μM and 5 μM, respectively. These homologous bifunctional proteins are the only enzymes capable of converting crotonyl-CoA to acetoacetyl-CoA in the autotrophic Desulfurococcales (<i>Ignicoccus hospitalis</i>) and Thermoproteales (<i>Pyrobaculum neutrophilus</i>), which utilize the dicarboxylate/4-hydroxybutyrate cycle for CO ₂ fixation.

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