MCD Protein, Human

Cat. No.:	HY-P701981
Synonyms:	MLYCD; Malonyl-CoA decarboxylase; mitochondrial; MCD
Species:	Human
Source:	E. coli
Accession:	O95822 (M40-S491)
Gene ID:	23417
Molecular Weight:	

PROPERTIES

Appearance	Solution.
Formulation	Supplied as a 0.22 μm filtered solution of 50 mM Tris-HCl, pH7.5, 200 mM NaCl, 20% glycerol.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	Please use rapid thawing with running water to thaw the protein.
Storage & Stability	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
Shipping	Shipping with dry ice.

DESCRIPTION

Background	The MCD protein plays a pivotal role in cellular metabolism by catalyzing the conversion of malonyl-CoA to acetyl-CoA. Particularly significant in fatty acid biosynthesis, MCD selectively eliminates malonyl-CoA, ensuring that methyl-malonyl-CoA becomes the exclusive substrate for fatty acid synthase. This selective removal mechanism contributes to the production of fatty acids with multiple methyl side chains. In peroxisomes, MCD is implicated in the degradation of intraperoxisomal malonyl-CoA, a byproduct of peroxisomal beta-oxidation of odd chain-length dicarboxylic fatty acids. Beyond its involvement in lipid metabolism, MCD influences the metabolic balance between glucose and lipid oxidation in muscle, independent of insulin signaling alterations. Additionally, MCD may play a role in mitigating ischemic injury by promoting glucose oxidation, highlighting its multifaceted impact on cellular functions and metabolic pathways.

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