Recombinant MDHC protein (His tag)

Catalog Number	537729
Synonyms	Aromatic alpha-keto acid reductase; KAR; Cytosolic malate dehydrogenase
Species	Human
Expression System	E. coli
Accession	P40925
Molecular Weight	Predictes a molecular mass of 37.95 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 38 kDa band.

Product Information

Sequence Region	2-334
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>89%, by SDS-PAGE with Coomassie Brilliant Blue staining.
Endotoxin	Not tested.
Activity	Not tested.
Stability	Samples are stable for up to twelve months from date of receipt at -70℃
Protein Construction	DNA encoding 2-334 aa (P40925) were fused with 6His tag.

Storage & Handling

Reconstitution	Reconstitute at 0.25 μg/μl in sterile water for short-term storage. Reconstitution with 50% glycerol solution is recommended for longer term storage (see Stability and Storage for more details). If a different concentration is needed for your purposes please adjust the reconstitution volume as required (please note: the ion concentration of the final solution will vary according to the volume used). Note: Centrifuge vial before opening. When reconstituting, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution.
Storage	Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Shipping	In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

Description

Description	Recombinant Human Malate Dehydrogenase, Cytoplasmic (MDH1) Fragment (residues 2-334) is a high-purity, soluble protein designed for structural and biochemical studies. This fragment encompasses the complete functional domain, offering a stable and active unit ideal for investigating enzymatic mechanisms, metabolic pathways, and oxidative phosphorylation processes. Malate dehydrogenase, cytoplasmic (MDH1), encoded by the MDH1 gene in Homo sapiens, is a multifunctional enzyme with critical roles in cellular metabolism. It catalyzes the reduction of aromatic alpha-keto acids using NADH and is integral to the malate-aspartate shuttle and tricarboxylic acid cycle, facilitating mitochondrial NADH supply for efficient oxidative phosphorylation. Additionally, MDH1 contributes to redox balance by reducing 2-oxoglutarate to 2-hydroxyglutarate, which can influence reactive oxygen species (ROS) levels. The protein is localized to the cytoplasm and cytosol, underscoring its importance in cytosolic metabolic regulation and energy production.