Recombinant D2HDH protein (His tag)

Catalog Number	543131
Species	Human
Expression System	E. coli
Accession	Q8N465
Molecular Weight	Predictes a molecular mass of 53.63 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 54 kDa band.

Product Information

Sequence Region	44-521
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>88%, 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 44-521 aa (Q8N465) 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 D-2-hydroxyglutarate dehydrogenase, mitochondrial (EC 1.1.99.39) fragment (residues 44-521) is a high-purity protein designed for functional studies. This fragment encompasses the essential FAD-binding PCMH-type domain, making it an ideal tool for investigating enzymatic activity and substrate specificity in metabolic research. The full-length D-2-hydroxyglutarate dehydrogenase, encoded by the D2HGDH gene, is a mitochondrial enzyme that catalyzes the oxidation of D-2-hydroxyglutarate (D-2-HG) to alpha-ketoglutarate. It also exhibits activity toward other D-2-hydroxyacids, including D-malate and D-lactate, with highest efficiency toward D-2-HG and D-malate. This enzyme plays a critical role in mitochondrial metabolism by converting D-2-HG, an oncometabolite linked to cancer progression, to alpha-ketoglutarate, thereby maintaining metabolic homeostasis. Its mitochondrial localization underscores its importance in cellular energy metabolism and metabolic regulation pathways.