Recombinant FAHD1 protein (His tag)

Catalog Number	545214
Synonyms	Acylpyruvase FAHD1; Fumarylacetoacetate hydrolase domain-containing protein 1; FAH domain-containing protein 1; Oxaloacetate decarboxylase; OAA decarboxylase; ODx; YisK-like protein
Species	Human
Expression System	E. coli
Accession	Q6P587
Molecular Weight	Predictes a molecular mass of 23.37 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 24 kDa band.

Product Information

Sequence Region	25-221
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>85%, 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 25-221 aa (Q6P587) 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 FAHD1 Oxaloacetate Tautomerase Fragment (25-221) is a high-purity, stable protein fragment derived from human mitochondrial FAHD1, designed for structural and biochemical studies. This soluble unit retains key functional domains, enabling research into its critical roles in the TCA cycle, including oxaloacetate tautomerization and decarboxylation, to support investigations in cellular metabolism and energy regulation. The full-length FAHD1 protein, encoded by the FAHD1 gene in Homo sapiens, is a mitochondrial enzyme with multiple catalytic activities essential for aerobic respiration. It primarily functions as an oxaloacetate tautomerase (EC 5.3.2.2), converting enol-oxaloacetate to its keto form to prevent inhibition of succinate dehydrogenase, thereby optimizing energy production efficiency. Additionally, FAHD1 exhibits weak oxaloacetate decarboxylase activity (EC 4.1.1.112), regulating the TCA cycle by producing pyruvate and CO2, and possesses acylpyruvase activity (EC 3.7.1.5), hydrolyzing substrates like acetylpyruvate and fumarylpyruvate in vitro. Located in the mitochondrion and cytoplasm, FAHD1 plays a pivotal role in metabolic homeostasis, with implications for understanding mitochondrial dysfunction and related diseases.