Recombinant HEM0 protein (His tag)

Catalog Number	546845
Synonyms	ALAS-E; 5-aminolevulinic acid synthase 2; Delta-ALA synthase 2; Delta-aminolevulinate synthase 2
Species	Human
Expression System	E. coli
Accession	P22557
Molecular Weight	Predictes a molecular mass of 52.55 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 53 kDa band.

Product Information

Sequence Region	130-587
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>86%, 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 130-587 aa (P22557) 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	This product features a recombinant fragment (residues 130-587) of human 5-aminolevulinate synthase, erythroid-specific, mitochondrial (ALAS-E), a key enzyme in heme biosynthesis. The fragment is computationally designed for optimal stability and solubility, making it ideal for structural studies, enzymatic assays, and biochemical research. The full-length ALAS-E protein, encoded by the ALAS2 gene, catalyzes the pyridoxal 5'-phosphate (PLP)-dependent condensation of succinyl-CoA and glycine to form aminolevulinic acid (ALA), a critical and rate-limiting step in heme synthesis. This enzyme is predominantly expressed during erythropoiesis, where it contributes significantly to heme production for hemoglobin. ALAS-E localizes to the matrix side of the mitochondrial inner membrane as a peripheral membrane protein. Isoforms of the enzyme exhibit varying catalytic activities, with isoform 1 serving as the primary functional form. The provided fragment encompasses a stable, soluble region of the protein, enabling detailed investigation of its biochemical properties without membrane-associated complexities.