Recombinant HEM3 protein (His tag)

Catalog Number	544334
Synonyms	PBG-D; Hydroxymethylbilane synthase; HMBS; Pre-uroporphyrinogen synthase
Species	Human
Expression System	E. coli
Accession	P08397
Molecular Weight	Predictes a molecular mass of 40.86 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 41 kDa band.

Product Information

Sequence Region	2-361
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 2-361 aa (P08397) 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 Porphobilinogen deaminase (PBG-D), also known as Hydroxymethylbilane synthase (HMBS), is a key enzyme in the heme biosynthesis pathway. This product features a stable and soluble fragment (residues 2-361) of the human protein, optimized for structural and biochemical studies. Porphobilinogen deaminase (EC 2.5.1.61) catalyzes the sequential polymerization of four porphobilinogen molecules to form hydroxymethylbilane (preuroporphyrinogen), a crucial step in heme production. The enzyme operates through a unique mechanism involving a covalently bound dipyrromethane cofactor that acts as a primer for tetrapyrrole assembly. Following catalysis, the product is released while the cofactor remains intact for subsequent cycles. In human cells, HMBS is localized to the cytoplasm and cytosol, where it facilitates this essential biosynthetic process. The provided recombinant fragment encompasses the complete functional domain of the protein, enabling detailed investigation of its catalytic properties and structural features.