Recombinant THEM5 protein (His tag)

Catalog Number	547721
Synonyms	Acyl-CoA thioesterase THEM5; Acyl-coenzyme A thioesterase 15; Thioesterase superfamily member 5
Species	Human
Expression System	E. coli
Accession	Q8N1Q8
Molecular Weight	Predictes a molecular mass of 25.34 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 25 kDa band.

Product Information

Sequence Region	37-247
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>87%, 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 37-247 aa (Q8N1Q8) 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 Acyl-coenzyme A thioesterase THEM5 (residues 37-247) is a high-purity fragment designed for structural and biochemical studies. This 211-amino acid construct maintains the enzyme's catalytic activity toward long-chain fatty acyl-CoA substrates, particularly unsaturated esters like linoleoyl-CoA, providing a stable and soluble tool for investigating mitochondrial lipid metabolism. The full-length THEM5 protein, encoded by the THEM5 gene in humans, functions as an acyl-CoA thioesterase (EC 3.1.2.2) with specificity for long-chain (C16 and C18) fatty acyl-CoA substrates, showing heightened activity toward unsaturated forms such as linoleoyl-CoA. Located in the mitochondrial matrix, THEM5 is critical for mitochondrial fatty acid metabolism and participates in remodeling cardiolipin, a key mitochondrial lipid. Its role is essential for maintaining normal mitochondrial function, as evidenced by studies linking it to metabolic regulation (PubMed:22586271). The recombinant fragment (residues 37-247) was selected computationally to ensure stability and solubility, enabling detailed analysis of its biochemical properties without the full protein's complexity.