Recombinant KBL protein (His tag)

Catalog Number	544178
Synonyms	AKB ligase; Aminoacetone synthase; Glycine acetyltransferase
Species	Human
Expression System	E. coli
Accession	O75600
Molecular Weight	Predictes a molecular mass of 44.43 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 44 kDa band.

Product Information

Sequence Region	22-419
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>90%, 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 22-419 aa (O75600) 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 2-amino-3-ketobutyrate coenzyme A ligase (GCAT) fragment (residues 22-419) is a high-purity, stable protein designed for structural and biochemical studies. This fragment encompasses the key functional domain, offering a soluble and active unit ideal for investigating pyridoxal phosphate-dependent enzymatic mechanisms. The full-length 2-amino-3-ketobutyrate coenzyme A ligase (AKB ligase), encoded by the GCAT gene, is a pyridoxal phosphate (PLP)-dependent mitochondrial enzyme that catalyzes the cleavage of 2-amino-3-oxobutanoate to glycine and acetyl-CoA. This reaction is critical in metabolic pathways involving amino acid and CoA metabolism. The protein localizes primarily to the mitochondrion but has been observed to translocate to the nucleus under cold and osmotic stress conditions, suggesting potential roles in cellular stress response. The recombinant fragment (residues 22-419) includes the complete functional domain, enabling focused studies on its catalytic activity and regulatory properties.