Recombinant GLNA protein (His tag)

Catalog Number	537546
Synonyms	GS; Glutamate--ammonia ligase; Palmitoyltransferase GLUL
Species	Human
Expression System	E. coli
Accession	P15104
Molecular Weight	Predictes a molecular mass of 43.59 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 44 kDa band.

Product Information

Sequence Region	2-373
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 2-373 aa (P15104) 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 Glutamine Synthetase (GS) fragment (residues 2-373) is a high-purity protein designed for studying the enzyme's core catalytic and regulatory domains. This fragment encompasses the essential GS beta-grasp and GS catalytic domains, making it an ideal tool for investigating glutamine biosynthesis, ammonia detoxification, and RHOJ-mediated signaling pathways in vitro. Glutamine Synthetase (GS), encoded by the GLUL gene in humans, is a multifunctional enzyme that catalyzes the ATP-dependent conversion of glutamate and ammonia to glutamine. It plays critical roles in ammonium detoxification across tissues: in the brain, it neutralizes neurotoxic glutamate and ammonia, while in the liver, it supports systemic ammonia clearance. Beyond its canonical function, GS is essential for erythropoiesis by mitigating oxidative stress during heme synthesis and regulates endothelial cell migration via RHOJ GTPase activation, potentially through palmitoyltransferase activity. It also contributes to ribosomal 40S subunit biogenesis and modulates BEST2 channel gating in response to intracellular glutamate. GS primarily localizes to the cytosol, with fractions associated with the cell membrane, microsomes, and mitochondria, reflecting its diverse physiological roles.