Recombinant CGL protein (His tag)

Catalog Number	544562
Synonyms	CGL; CSE; Cysteine desulfhydrase; Cysteine-protein sulfhydrase; Gamma-cystathionase; Homocysteine desulfhydrase
Species	Human
Expression System	E. coli
Accession	P32929
Molecular Weight	Predictes a molecular mass of 46.17 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 46 kDa band.

Product Information

Sequence Region	1-405
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 1-405 aa (P32929) 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 Cystathionine gamma-lyase (CGL/CSE) Fragment (1-405) is a high-purity, soluble protein designed for structural and biochemical studies. This fragment retains key functional domains, enabling researchers to investigate its role in the trans-sulfuration pathway, hydrogen sulfide (H_2S) production, and protein sulfhydration mechanisms. Cystathionine gamma-lyase (CGL), encoded by the CTH gene in humans, is a pyridoxal-5'-phosphate (PLP)-dependent enzyme central to the trans-sulfuration pathway. It catalyzes the final step in converting L-methionine to L-cysteine, producing L-cysteine, ammonia, and 2-oxobutanoate from L,L-cystathionine. This process supports glutathione biosynthesis, a critical antioxidant system. Additionally, CGL generates the signaling molecule hydrogen sulfide (H_2S) from substrates like L-cysteine and L-homocysteine, contributing to vasodilation, bone protection, and inflammation regulation. The enzyme also mediates protein sulfhydration, modifying cysteine residues in targets such as GAPDH and NF-κB to regulate their activity. Located in the cytoplasm, CGL is implicated in physiological processes including myogenesis and may play roles in conditions like hyperhomocysteinemia, cardiovascular disease, and Alzheimer's disease.