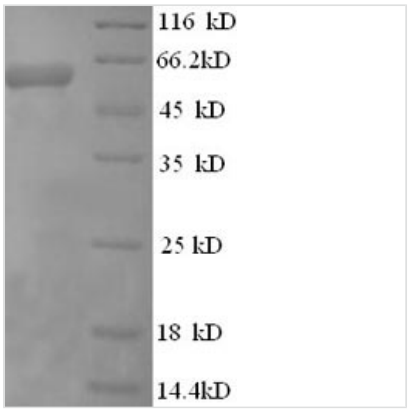
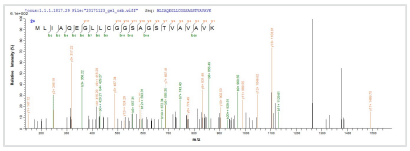
Recombinant Human Cystathionine beta-synthase (CBS), partial

Product Code	CSB-EP004589HU
Relevance	Only known pyridoxal phosphate-dependent enzyme that contains he. Important regulator of hydrogen sulfide, especially in the brain, utilizing cysteine instead of serine to catalyze the formation of hydrogen sulfide. Hydrogen sulfide is a gastratransmitter with signaling and cytoprotective effects such as acting as a neuromodulator in the brain to protect neurons against hypoxic injury .
Abbreviation	Recombinant Human CBS protein, partial
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	P35520
Alias	Beta-thionase;Serine sulfhydrase
Product Type	Recombinant Protein
Immunogen Species	Homo sapiens (Human)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	PSETPQAEVGPTGCPHRSGPHSAKGSLEKGSPEDKEAKEPLWIRPDAPSRCT WQLGRPASESPHHHTAPAKSPKILPDILKKIGDTPMVRINKIGKKFGLKCELLAK CEFFNAGGSVKDRISLRMIEDAERDGTLKPGDTIIEPTSGNTGIGLALAAAVRG YRCIIVMPEKMSSEKVDVLRALGAEIVRTPTNARFDSPESHVGVAWRLKNEIPN SHILDQYRNASNPLAHYDTTADEILQQCDGKLDMLVASVGTGGTITGIARKLKE KCPGCRIIGVDPEGSILAEPEELNQTEQTTYEVEGIGYDFIPTVLDRTVVDKWFK SNDEEAFTFARMLIAQEGLLCGGSAGSTVAVAVKAAQELQEGQRCVVILPDSV RNYMTKFLSDRWMLQKGFLKEEDLTEKKPWWWHLRVQELGLSAPLTVLPTIT CGHTIEILREKGFDQAPVVDEAGVILGMVTLGNMLSSLLAGKVQPSDQVGKVIY KQFKQIRLTDTLGRLSHILEMDHFALVVHEQIQYHSTGKSSQRQMVFGVVTAID LLNFVAAQERDQK
Research Area	Metabolism
Source	E.coli
Target Names	CBS
Expression Region	2-551aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 6xHis-tagged
Mol. Weight	64.5kDa
Protein Length	Partial

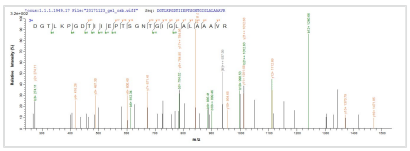
Image



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.



Based on the SEQUEST from database of E.coli host and target protein, the LC-MS/MS Analysis result of CSB-EP004589HU could indicate that this peptide derived from E.coli-expressed Homo sapiens (Human) CBS.



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Description

Amino acids 2-551 form the expressed segment for recombinant Human CBS. This CBS protein is theoretically predicted to have a molecular weight of 64.5 kDa. Expression of this CBS protein is conducted in e.coli. The N-terminal 6xHis tag was fused into the coding gene segment of CBS, making it easier to detect and purify the CBS recombinant protein in the later stages of expression and purification.

Cystathionine beta-synthase (CBS) is a crucial enzyme primarily involved in the metabolic pathway of homocysteine. One of its most popular and critical research areas focuses on its regulatory role in metabolism and diseases. CBS plays a key role in sulfur amino acid metabolism, participating in the conversion between cysteine and homocysteine, thereby influencing the body's sulfur metabolism balance. Recent studies have shown a widespread interest in the association of CBS with significant diseases, particularly cardiovascular diseases related to hyperhomocysteinemia. Elevated homocysteine levels are closely linked to atherosclerosis and cardiovascular diseases, making CBS a hot topic in research as an essential regulatory factor in this pathway. Additionally, CBS is implicated in various physiological and pathological processes related to the nervous system, tumors, and more. In the nervous system, CBS plays a role in neurotransmitter synthesis and oxidative stress response, garnering attention in the study of diseases associated with the nervous system. In the field of tumors, some studies suggest CBS's involvement in the proliferation and survival mechanisms of tumor cells, providing a new perspective for understanding cancer development.

Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL.We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference.
Shelf Life	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.