Recombinant AATC protein (His tag)

Catalog Number	539811
Synonyms	cAspAT; Cysteine aminotransferase, cytoplasmic; Cysteine transaminase, cytoplasmic; cCAT; Glutamate oxaloacetate transaminase 1; Transaminase A
Species	Human
Expression System	E. coli
Accession	P17174
Molecular Weight	Predictes a molecular mass of 47.77 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 48 kDa band.

Product Information

Sequence Region	2-413
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>88%, 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 2-413 aa (P17174) 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 Aspartate Aminotransferase, Cytoplasmic (cAspAT) Fragment (residues 2-413) is a high-purity protein designed for structural and biochemical studies. This fragment encompasses the complete functional domain and is optimized for stability and solubility, making it an ideal tool for investigating glutamate biosynthesis, neuroprotection, and metabolic regulation. Aspartate aminotransferase, cytoplasmic (cAspAT), encoded by the GOT1 gene in Homo sapiens, plays a critical role in the biosynthesis of L-glutamate from L-aspartate or L-cysteine. It is a key regulator of glutamate levels, the primary excitatory neurotransmitter in the central nervous system, and functions as a neuroprotective agent by scavenging glutamate. Additionally, cAspAT contributes to hepatic glucose synthesis during development and adipocyte glyceroneogenesis. Using L-cysteine as a substrate, it regulates mercaptopyruvate levels, which serve as an important source of hydrogen sulfide—a synaptic modulator and neuroprotectant. The enzyme also catalyzes (2S)-2-aminobutanoate, a by-product in cysteine biosynthesis. cAspAT is localized in the cytoplasm, as supported by experimental evidence.