Recombinant AAAT protein (His tag)

Catalog Number	540353
Synonyms	0; ATB(0); Baboon M7 virus receptor; RD114/simian type D retrovirus receptor; Sodium-dependent neutral amino acid transporter type 2; Solute carrier family 1 member 5
Species	Human
Expression System	E. coli
Accession	Q15758
Molecular Weight	Predictes a molecular mass of 8.99 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 9 kDa band.

Product Information

Sequence Region	154-224
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>87%, 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 154-224 aa (Q15758) 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	This product is a high-quality recombinant protein fragment corresponding to residues 154-224 of the human Neutral amino acid transporter B(0) (ATB(0)), encoded by the SLC1A5 gene. This 71-amino acid fragment has been carefully selected for its stability and solubility, making it an excellent tool for structural studies, biochemical assays, and functional investigations of this critical amino acid transporter. The full-length SLC1A5 protein, also known as the Neutral amino acid transporter B(0), is a sodium-coupled antiporter that facilitates the exchange of neutral amino acids across the cell membrane. Its primary function involves a tri-substrate transport cycle where it exchanges intracellular and extracellular neutral amino acids, coupled with sodium ion cotransport. L-glutamine serves as its preferred substrate, making ATB(0) essential for providing this crucial amino acid to proliferating stem cells and activated cells, thereby driving metabolic shifts toward cell differentiation. Beyond its metabolic roles, ATB(0) exhibits pH-independent transport for most substrates, though it can transport L-glutamate with proton and sodium cotransport, potentially regulating the glutamine/glutamate cycle in nervous tissue. The protein also demonstrates unexpected functions including D-amino acid transport and anion channel activity. Notably, ATB(0) serves as a receptor for several retroviruses including Feline endogenous virus RD114, Baboon M7 endogenous virus, and type D simian retroviruses. Cellular localization studies confirm its presence as a multi-pass membrane protein primarily located in the plasma membrane, with additional identification in melanosome fractions. The selected fragment represents a stable, soluble region ideal for investigating the structural and functional properties of this multifunctional transporter.