Recombinant EAA5 protein (His tag)

Catalog Number	539392
Synonyms	Retinal glutamate transporter; Solute carrier family 1 member 7
Species	Human
Expression System	E. coli
Accession	O00341
Molecular Weight	Predictes a molecular mass of 12.81 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 13 kDa band.

Product Information

Sequence Region	115-216
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>90%, 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 115-216 aa (O00341) 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 Excitatory Amino Acid Transporter 5 (SLC1A7) Fragment (aa 115-216) - A high-quality protein fragment derived from the retinal glutamate transporter, specifically engineered for structural and biochemical studies. This 102-amino acid fragment represents a stable and soluble unit ideal for investigating glutamate transport mechanisms and synaptic function. Excitatory amino acid transporter 5 (EAAT5), encoded by the SLC1A7 gene, functions as a sodium-dependent, high-affinity transporter for L-glutamate, L-aspartate, and D-aspartate. This symporter mechanism involves the co-transport of one amino acid molecule with two or three Na+ ions and one proton, coupled with the counter-transport of one K+ ion. Beyond its transport function, EAAT5 serves as a critical inhibitory glutamate-gated chloride channel, acting as a major presynaptic inhibitory receptor at mammalian rod bipolar cell axon terminals. The glutamate binding triggers a large Cl- conductance that mediates inhibition, playing a crucial role in visual processing within the retina. The protein localizes to photoreceptor inner segment membranes and synaptic cell membranes, specifically found in both cone and rod photoreceptor terminals and axon terminals of rod bipolar cells, highlighting its importance in retinal neurotransmission and visual signal processing.