

Recombinant Human EAA3 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP50270

Size: 10ug, 100ug

Protein Name: Excitatory amino acid transporter 3 (Excitatory amino-acid carrier 1) (Neuronal and epithelial glutamate transporter) (Sodium-dependent glutamate/aspartate transporter 3) (Solute carrier family 1 member 1)

Synonym: SLC1A1, EAAC1, EAAT3, HEAAC1

UniProt ID: P43005

UniProt Link: www.uniprot.org/uniprotkb/P43005/entry

Species Source: Human

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 524 AA

Molecular Weight: 57 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MGKPARKGCEWKRFLKNNWVLLSTVAAVVLGITTGVLVREHSNLSTLEKFYFAFPGEILMRMLKLIIL
PLIISMITGVAALDSNVSGKIGLRVAVVYFCTTLIAVILGIVLVVSIKPGVTQKVGEIARTGSTPEVSTVD
AMLDLIRNMFENLVQACFQQYKTKREEVKPPSDPEMNMTEESFTAVMTTAKNKTKEYKIVGMYS
DGINVLGLIVFCLVFLVIGKMGEGQILVDFFNALSDATMKIVQIIMCYMPLGILFLIAGKIIVEDWEIF
RKLGLYMATVLTGLAIHSIVILPLIYFIVVRKNPFRFAMGMAQALLTALMISSSSATLPVTFRCAEENNQ
VDKRITRFVLPVGATINMDGTALYEAAVFAQLNDLDLGIGQIITISITATSASIGAAGVPQAGLVTMV
IVLSAVGLPAEDVTLLIIVDWLLDRFRTMVNVLGDAFGTGIVEKLSKKELEQMDVSSEVNIVNPFALLES
TILDNEDSDTKKSYVNGGFAVDKSDTISFTQTSQF

3. Buffer Composition

Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

5. Product Description

This product is recombinant Excitatory amino acid transporter 3 (Excitatory amino-acid carrier 1) (Neuronal and epithelial glutamate transporter) (Sodium-dependent glutamate/aspartate transporter 3) (Solute carrier family 1 member 1) produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

Protein Function: Sodium-dependent, high-affinity amino acid transporter that mediates the uptake of L-glutamate and also L-aspartate and D-aspartate (PubMed:21123949, PubMed:26690923, PubMed:33658209, PubMed:7521911, PubMed:7914198, PubMed:8857541). Can also transport L-cysteine (PubMed:21123949). Functions as a symporter that transports one amino acid molecule together with two or three Na(+) ions and one proton, in parallel with the counter-transport of one K(+) ion (PubMed:26690923, PubMed:33658209, PubMed:7521911, PubMed:8857541). Mediates Cl(-) flux that is not coupled to amino acid transport; this avoids the accumulation of negative charges due to aspartate and Na(+) symport (PubMed:26690923, PubMed:8857541). Plays an important role in L-glutamate and L-aspartate reabsorption in renal tubuli (PubMed:21123949). Plays a redundant role in the rapid removal of released glutamate from the synaptic cleft, which is essential for terminating the postsynaptic action of glutamate (By similarity). Contributes to glutathione biosynthesis and protection against oxidative stress via its role in L-glutamate and L-cysteine transport (By similarity). Negatively regulated by ARL6IP5 (By similarity).

Subcellular Localization: Cell membrane ; Multi-pass membrane protein . Apical cell membrane ; Multi-pass membrane protein . Synapse, synaptosome . Early endosome membrane . Late endosome membrane . Recycling endosome membrane .

6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer-composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.