

Recombinant Human S22A5 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP50868

Size: 10ug, 100ug

Protein Name: Organic cation/carnitine transporter 2 (High-affinity sodium-dependent carnitine cotransporter) (Solute carrier family 22 member 5)

Synonym: SLC22A5, OCTN2

UniProt ID: O76082

UniProt Link: www.uniprot.org/uniprotkb/O76082/entry

Species Source: Human

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 557 AA

Molecular Weight: 63 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MRDYDEVTAFLGEWGPFQRLIFFLLSASIIPNGFTGLSSVFLIATPEHRCRVPDAANLSSAWRNHTVP
LRLRDGREVP HSCRRYRLATIANFSALGLEPGRDVDLGQLEQESCLDGWEFSQDVYLSTIVTEWNL
VCEDDWKAPLTISLFFVGVLGSGFISGQLSDRFGRKNVLFVTMGMQTGFSFLQIFSKNFEMFVVLFLV
VGMGQISNYAAAFVLGTEILGKSVRIIFSTLGVCIFYAFGYMVLPLFAYFIRDWRMLLVALTMPGVLCV
ALWWFIPESPRWLISQGRFEEAEVIIRKAAKANGIVVPSTIFDPSELQDLSSKKQQSHNILDLLRTWNI
RMVTIMSIMLWMTISVG YFGLSLDTPNLHGDIFVNCFLSAMVEVPAYVLAWLLLQYLPRRYSMATALF
LGGSVLLFMQLVPPDLYLATVLVMVGKFGVTAAFSMVYVYTAELYPTVVRNMGVGVSSSTASRLGSI
LSPYFVYLGAYDRFLPYILMGSLTILTAILFLPESFGTLPDTIDQMLRVKGMKHKRKTPTSHTRMLKD
GQERPTILKSTAF

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 Organic cation/carnitine transporter 2 (High-affinity sodium-dependent carnitine cotransporter) (Solute carrier family 22 member 5) 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-ion dependent, high affinity carnitine transporter. Involved in the active cellular uptake of carnitine. Transports one sodium ion with one molecule of carnitine (PubMed:10454528, PubMed:10525100, PubMed:10966938, PubMed:17509700, PubMed:20722056, PubMed:33124720). Also transports organic cations such as tetraethylammonium (TEA) without the involvement of sodium. Relative uptake activity ratio of carnitine to TEA is 11.3 (PubMed:10454528, PubMed:10525100, PubMed:10966938). In intestinal epithelia, transports the quorum-sensing pentapeptide CSF (competence and sporulation factor) from *B.subtilis* which induces cytoprotective heat shock proteins contributing to intestinal homeostasis (PubMed:18005709). May also contribute to regulate the transport of organic compounds in testis across the blood-testis-barrier (Probable).; [Isoform 3]: Retained in the ER, unable to perform carnitine uptake.

Subcellular Localization: Cell membrane ; Multi-pass membrane protein . Apical cell membrane ; Multi-pass membrane protein . Basal cell membrane ; Multi-pass membrane protein . Note=In intestinal cells, apical expression is induced by TNF. Localized to the basal membrane of Sertoli cells (PubMed:35307651).; [Isoform 3]: Endoplasmic reticulum .

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.