

Recombinant Mouse STAR7 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP51794

Size: 10ug, 100ug

Protein Name: StAR-related lipid transfer protein 7, mitochondrial (STARD7, mitochondrial) (START domain-containing protein 7) (StARD7) [Cleaved into: StAR-related lipid transfer protein 7, mature (STARD7, mature)]

Synonym: Stard7

UniProt ID: Q8R1R3

UniProt Link: www.uniprot.org/uniprotkb/Q8R1R3/entry

Species Source: Mouse

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 373 AA

Molecular Weight: 43 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MFPRRPPATLAAWLAGARGGGLLSALANQCRFVTGLRVRRRAQQIAQLYGRLYSESSRCALLGRFW
RRLRGRPGHASVLMAALSGVFVWDEERIQEEELQRSINEMKRLEEMSNIFQSSGVENYPPEPKSPA
GGNEKSKDKEEPWEMVMDKKHFKLWRRPITGTHLYQYRVFGTYTDVTPRQFFNVQLDTEYRKKWD
ALVIKLEVIERDAVSGSEVLHWVTHFPYPMYSRDYVYVRRYSVDQENNVMLVSRAVEHPSVPESP
EFVRVRSYESQMVRPHKSFDENGFDYLLTYSNPDQTVFPRYCVSWMVSSGMPDFLEKLHMATLKA
KNMEIKVKDYISAKPLEMSSEAKATAPSPERKNEGSCGPRIEYA

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 StAR-related lipid transfer protein 7, mitochondrial (STARD7, mitochondrial) (START domain-containing protein 7) (StARD7) [Cleaved into: StAR-related lipid transfer protein 7, mature (STARD7, mature)] 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: Mediates non-vesicular transfer of phosphatidylcholine to mitochondria, thereby maintaining mitochondrial membrane lipid composition, cristae organization, and respiratory function across diverse tissues.; [StAR-related lipid transfer protein 7, mitochondrial]: Transfers phosphatidylcholine (PC) from the endoplasmic reticulum to the mitochondrial outer membrane at ER-mitochondria contact sites, thereby maintaining mitochondrial PC content, respiratory complex stability and mitochondrial cristae morphology.; [StAR-related lipid transfer protein 7, mature]: Phosphatidylcholine (PC) transfer protein that operates in two distinct forms: a cytosolic form and a mitochondrial intermembrane space (IMM) form. Both mature forms facilitate non-vesicular PC transport by transiently associating with mitochondrial membranes. The mitochondrial intermembrane space (IMM) form supports lipid exchange between the outer and inner mitochondrial membranes. Through this activity, the protein is essential for maintaining mitochondrial lipid homeostasis, preserving normal cristae architecture, and ensuring optimal respiratory chain function (PubMed:32071354). Mediates intracellular distribution of coenzyme Q (ubiquinone), the intermembrane space form supports mitochondrial coenzyme Q biosynthesis and the cytosolic form transfers coenzyme Q to extramitochondrial membranes, enhancing antioxidant protection and limiting ferroptosis sensitivity (PubMed:36658222).

Subcellular Localization: [StAR-related lipid transfer protein 7, mitochondrial]: Mitochondrion outer membrane ; Single-pass membrane protein ; Cytoplasmic side .; [StAR-related lipid transfer protein 7, mature]: Mitochondrion intermembrane space . Cytoplasm, cytosol . Note=Precursor form is imported into mitochondria via the TOM and TIM23 complexes. After sequential cleavages by YME1L1 and PARL, mature form is released from the inner membrane and dynamically localizes to the cytosol and mitochondrial intermembrane space, where it associates transiently with the outer mitochondrial membrane to mediate phosphatidylcholine (PC) transfer between mitochondrial membranes.

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.