

Recombinant Mouse GPR37 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP51958

Size: 10ug, 100ug

Protein Name: Prosaposin receptor GPR37 (G protein-coupled receptor 37)

Synonym: Gpr37

UniProt ID: Q9QY42

UniProt Link: www.uniprot.org/uniprotkb/Q9QY42/entry

Species Source: Mouse

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 600 AA

Molecular Weight: 67 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MPARGAPLSRTSRLLLLLLFKVSVSAALSFVPEPRNGTCLGESCSPLIQRRSRDARGPGNSAKDALR
VHVPREKLEAEVRGATSWDLPPPRGGDTGVIEEAAAAGPLGPPTKPPSAWRWKSAAQGKEPSGHLR
RRDPTDPQLFFPTSEGEMSSKRDGIPQSRQEHSVKTEPRDLFYWPRRTGQLQDSQHRPSAVHEG
RTLAPPGRALPQNGSADDWVPDQGGPRRGNTTRRVRLKNPFYPLTQESYGAYAVMCLSVVIFGTGI
IGNLAVMCIVCHNYYMRSISNSLLANLAFWDFLIIFCLPLVIFHELTKKWLLDFSKIVPYIEVASLGV
TTFTLCALCIDRFRAATNVQMYEMIENCSSTTAKLAVIWWGALLLALPEVVLRLQLSKEDLGFSGQAP
AERCVIKISPDLPDTIYVLALTYDGARLWWYFGCYFCLPTLFTITCSLVTARKIRKAEKASTRGNKRQI
HLESQMNCTVVALTILYGFCIIPENICNIVTAYMATGVSQQTMDLLNIISQFLLFFKSCVTPVLLFCLCRP
FSRAFMECCCCCCEECIQKSSTVTSDNDNEYTTELELSPFSTIRREMSTFASVGTHC

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 Prosaposin receptor GPR37 (G protein-coupled receptor 37) 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: G protein-coupled receptor that plays a role in several physiological pathways such as resolution of inflammatory pain and oligodendrocyte differentiation (PubMed:26961174, PubMed:28642167, PubMed:30010619). Acts as a receptor for several ligands including prosaposin, osteocalcin or neuroprotectin D1. Ligand binding induces endocytosis, followed by an ERK phosphorylation cascade (By similarity). Acts as a receptor for osteocalcin (OCN) to regulate oligodendrocyte differentiation and central nervous system myelination (PubMed:34678058). Mechanistically, plays a negative role in oligodendrocyte differentiation and myelination during development via activation of the ERK1/2 signaling pathway (PubMed:26961174). Therefore, regulates the stability of myelin or resistance of myelin itself to demyelination (PubMed:28642167). Upon activation by neuroprotectin D1 (NPD1), promotes the activation of phagocytosis in macrophages as well as the shift in cytokine release toward an anti-inflammatory profile, and thus helps to reverse inflammatory pain (PubMed:30010619). In addition, the increased macrophage phagocytosis mediates protection against sepsis upon pathogen infection (PubMed:33731716). Additionally, extracellular vesicles derived from efferocyte express prosaposin, which binds to macrophage GPR37 to increase expression of the efferocytosis receptor TIM4 via an ERK-AP1-dependent signaling axis, leading to increased macrophage efferocytosis efficiency and accelerated resolution of inflammation (PubMed:37436891). May also act as a maturation factor of LRP6, protecting LRP6 from the endoplasmic reticulum (ER)-associated protein degradation (ERAD) and thereby promoting the Wnt/beta-catenin signaling pathway (By similarity).

Subcellular Localization: Cell projection, dendrite . Synapse . Cell membrane ; Multi-pass membrane protein . Endoplasmic reticulum membrane ; Multi-pass membrane protein .

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.