

Recombinant Rat GPR37 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP52595

Size: 10ug, 100ug

Protein Name: Prosaposin receptor GPR37 (G protein-coupled receptor 37) (G protein-coupled receptor CNS1)

Synonym: Gpr37

UniProt ID: Q9QYC6

UniProt Link: www.uniprot.org/uniprotkb/Q9QYC6/entry

Species Source: Rat

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 603 AA

Molecular Weight: 67 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MPAPGAPLSRTSRLLLLLLFKVSVAALSFVPEPRNGTCLGESCSPLIPRRSRDAGGPRNSARDALR
VHVPREKLEAEVRGATSWDLPPPRGGDTGVIEEAAASGPLGPPTKPPGAWRWKGAQGKEPSGHL
GRREPTDSQLFRQTSERGEMSSKRDEIPQGSQEHSVKTEPEPRDLFYWPRKTGQLQGSHYRPSAV
HEGRTLAPPGRALPQNGSADDWVPDQGGPRRGNSTNRRVRLKNPFYPLTQESYGAYAVMCLSVVI
FGTGIIGNLAVMCIVCHNYMRSISNSLLANLAFWDFLIIFCLPLVIFHELTKKWLLEDFSCKIVPYIEV
ASLGVTFTLALCALCIDRFRAATNVQMYEMIENCSSTTAKLAVIWWGALLLALPEVVLRQLSKEDLGF
SGQAPAERCVIKISPDLPDTIYVLALTYDGARLWWYFGCYFCLPTLFTITCSLVTARKIRKAEKASTRG
NKRQIHLESQMNCVTVALTILYGFICIENICNIVTAYMATGVSQQTMDLLNIISQFLLFFKSCVTPVLLF
CLCRPFSRAFMECCCCCCEECIQKSSTVTSDNDNEYTTELELSPFSTIRREMSTFASVGTHC

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) (G protein-coupled receptor CNS1) 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 (By similarity). 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. Mechanistically, plays a negative role in oligodendrocyte differentiation and myelination during development via activation of the ERK1/2 signaling pathway. Therefore, regulates the stability of myelin or resistance of myelin itself to demyelination. 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. In addition, the increased macrophage phagocytosis mediates protection against sepsis upon pathogen infection. 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 (By similarity). 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.