

Recombinant Rat LGR4 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP52617

Size: 10ug, 100ug

Protein Name: Leucine-rich repeat-containing G protein-coupled receptor 4 (G protein-coupled receptor 48)

Synonym: Lgr4, Gpr48

UniProt ID: Q9Z2H4

UniProt Link: www.uniprot.org/uniprotkb/Q9Z2H4/entry

Species Source: Rat

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 951 AA

Molecular Weight: 104 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MPGPLRLLCFFALGLLGSAGPSGAAPPLCAAPCSCDGD RRVD CSGKGLTAVPEGLSAFTQALDISM
NNITQLPEDAFKSFPLEELQLAGNDLSFIHPKALSGLKELKVLTLQNNQLRTVPSEAIHGLSALQSLR
LDANHITSVPEDSFEGLVQLRHLWLDDNSLTEVPVRPLSNLPTLQALTLALNNISSIPDFAFTNLSSLV
VLHLHNNKIKSLSQHCDFGLDNLETLDLNNNLDEFQAIKALPSLKELGFHSNSISVIPDGAFFGNPL
LRTIHLVDNPLSFVGNFAFHNLSDLHSLVIRGASLVQWFPNLTGTVHLESLTLTGTKISSIPDDLQCNQ
KMLRTLDSLNNIRDLPFNGCRALEEISLQRNQISLIKENTFQGLTSLRILDLSRNLIREIHSGAFKLG
TITNLDVSFNEELTSFPTGLNGLNQLKLVGNFKLKDALAARDFANLRSLSPYAYQCCAFWGCDSYA
NLNTEDNSPQEHSVTKEKGATDAANVTSTAENEEHSQIIHCTPSTGAFKPCEYLLGWSMIRLTVWFI
FLVALLFNLLVILTVFASCSSLPASKLFIGLISVSNLLMGIYTGILTFDAVSWGRFAEFGIWWETGSGC
KVAGSLAVFSSES AVFLLTAAVERSVFAKDLMKHGKSSHLRQFQVAALLALLGAAVAGCFPLFHGG
QYSASPLCLPFTGETPSLGFTVTLVLLNSLAFLLMIIYTKLYCNLEKEDLSENSQSSVIKHVAWLIFT
NCIFFCPVAFFSFAPLITAISPEIMKSVTLIFFPLPACLNPNVLYVFFNPKFKEDWKLLKRRVTRKHGSV
SVSISSQGGCGEQDFYYDCGMYSHLQGNLTVCDCCESFLLTKPVSCKHLIKSHSCPVLTAASCQRP
EAYWSDCGTQSAHSDYADEEDSFVSDSSDQVQACGRACFYQSRGFPLVRYAYNLQRVRD

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 Leucine-rich repeat-containing G protein-coupled receptor 4 (G protein-coupled receptor 48) 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: Receptor for R-spondins that potentiates the canonical Wnt signaling pathway and is involved in the formation of various organs. Upon binding to R-spondins (RSPO1, RSPO2, RSPO3 or RSPO4), associates with phosphorylated LRP6 and frizzled receptors that are activated by extracellular Wnt receptors, triggering the canonical Wnt signaling pathway to increase expression of target genes. In contrast to classical G protein-coupled receptors, does not activate heterotrimeric G proteins to transduce the signal. Its function as activator of the Wnt signaling pathway is required for the development of various organs, including liver, kidney, intestine, bone, reproductive tract and eye. May also act as a receptor for norrin (NDP), such results however require additional confirmation in vivo. Required during spermatogenesis to activate the Wnt signaling pathway in peritubular myoid cells. Required for the maintenance of intestinal stem cells and Paneth cell differentiation in postnatal intestinal crypts. Acts as a regulator of bone formation and remodeling. Involved in kidney development; required for maintaining the ureteric bud in an undifferentiated state. Involved in the development of the anterior segment of the eye. Required during erythropoiesis. Also acts as a negative regulator of innate immunity by inhibiting TLR2/TLR4 associated pattern-recognition and pro-inflammatory cytokine production. Plays an important role in regulating the circadian rhythms of plasma lipids, partially through regulating the rhythmic expression of MTTP. Required for proper development of GnRH neurons (gonadotropin-releasing hormone expressing neurons) that control the release of reproductive hormones from the pituitary gland (By similarity).

Subcellular Localization: Cell 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.