

Recombinant Rat GRP1 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP52603

Size: 10ug, 100ug

Protein Name: RAS guanyl-releasing protein 1 (Calcium and DAG-regulated guanine nucleotide exchange factor II) (CalDAG-GEFII) (Ras guanyl-releasing protein)

Synonym: Rasgrp1, Rasgrp

UniProt ID: Q9R1K8

UniProt Link: www.uniprot.org/uniprotkb/Q9R1K8/entry

Species Source: Rat

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 795 AA

Molecular Weight: 90 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MGTLGKAREAPRKPCGSRAGPKGRLEAKSTNSPLPAQPSLAQITQFRMMVSLGHLAKGASLDDLI
DSCIQSFADAGNLCRSNQLLQVMLTMHRIIISSAELLQKLMNLYKDALEKNSPGICLKICYFVRYWITE
FWIMFKMDASLTSTMEEFQDLVKANGEESHCHLIDTTQINSRDWSRKLTQRIKSNTSKKRKVSLLFD
HLEPEELSEHLTYLEFKSFRRISFSQYQNYLVNSCVKENPTMERSIALCNGISQWVQLMVLSRPTPQL
RAEVFIKFIHVAQKLHQLQNFNTLMAVIGGLCHSSISRLKETSSHVPHEINKVLGEMTELLSSCRNYDN
YRRAYGECTHFKIPILGVHLKDLISLYEAMPDYLEDGKVNQKLLALYNHINELVQLQDVAPPLDANK
DLVHLLTSLDLYYTEDEIYELSYAREPRNHRAPPLTPSKPPVVVDWASGVSPKPDPKTISKHVQRM
VDSVFKNYDLDDQDGYISQEEFEKIAASFPSFCVMDKDREGLISRDEITAYFMRASSIYSKLGFGPH
NFQETTYLKPTFCDCAGFLWGVKQGYRCKDCGMNCHKQCKDLVVFECCKRSKSPAVSTENISSV
VPMSTLCPLGTDLLHAPEEGSFIFQNGEVVDHSEESKDRTIMLLGVSSQKISVRLKRTVAHKTTQTE
SFPWVGGEPPGHFVLTSRPSAQQALYVHSPASPCPSALVRKRAFKWENKESLIKPKPELHLR
LRTYQELEQEVNLTADNDALKIQLKYAQKQIESLQLGKSNHVLAQMDHGDGT

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 RAS guanyl-releasing protein 1 (Calcium and DAG-regulated guanine nucleotide exchange factor II) (CalDAG-GEFII) (Ras guanyl-releasing protein) 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: Functions as a calcium- and diacylglycerol (DAG)-regulated nucleotide exchange factor specifically activating Ras through the exchange of bound GDP for GTP (PubMed:9582122, PubMed:9789079). Activates the Erk/MAP kinase cascade. Regulates T-cell/B-cell development, homeostasis and differentiation by coupling T-lymphocyte/B-lymphocyte antigen receptors to Ras. Regulates NK cell cytotoxicity and ITAM-dependent cytokine production by activation of Ras-mediated ERK and JNK pathways (By similarity). Functions in mast cell degranulation and cytokine secretion, regulating FcERI-evoked allergic responses. May also function in differentiation of other cell types. Proto-oncogene, which promotes T-cell lymphomagenesis when its expression is deregulated (By similarity).

Subcellular Localization: Cytoplasm, cytosol. Cell membrane; Peripheral membrane protein. Golgi apparatus membrane ; Peripheral membrane protein . Endoplasmic reticulum membrane ; Peripheral membrane protein . Note=Found both in the cytosol and associated with membranes. Relocalization to the cell membrane upon activation is F-actin-dependent (By similarity). Translocates to the Golgi in response to phorbol ester or nerve growth factor (By similarity). Localizes to somata and dendrites but not to axons of hippocampal pyramidal cells.

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.