Recombinant RPGF2 protein (His tag)

Catalog Number	543948
Synonyms	Cyclic nucleotide ras GEF; CNrasGEF; Neural RAP guanine nucleotide exchange protein; nRap GEP; PDZ domain-containing guanine nucleotide exchange factor 1; PDZ-GEF1; RA-GEF-1; Ras/Rap1-associating GEF-1
Species	Human
Expression System	E. coli
Accession	Q9Y4G8
Molecular Weight	Predictes a molecular mass of 44.13 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 48 kDa band.

Product Information

Sequence Region	106-478
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>88%, by SDS-PAGE with Coomassie Brilliant Blue staining.
Endotoxin	Not tested.
Activity	Not tested.
Stability	Samples are stable for up to twelve months from date of receipt at -70℃
Protein Construction	DNA encoding 106-478 aa (Q9Y4G8) were fused with 6His tag.

Storage & Handling

Reconstitution	Reconstitute at 0.25 μg/μl in sterile water for short-term storage. Reconstitution with 50% glycerol solution is recommended for longer term storage (see Stability and Storage for more details). If a different concentration is needed for your purposes please adjust the reconstitution volume as required (please note: the ion concentration of the final solution will vary according to the volume used). Note: Centrifuge vial before opening. When reconstituting, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution.
Storage	Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Shipping	In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

Description

Description	Recombinant Human RAPGEF2 (106-478) Fragment is a high-purity protein designed for studying the guanine nucleotide exchange factor activity of Rap and Ras GTPases. This fragment encompasses the key N-terminal Ras-GEF and PDZ domains, making it an ideal tool for investigating cAMP-dependent signaling pathways, neuronal development, and endothelial barrier regulation in a controlled experimental setting. RAPGEF2, also known as PDZ-GEF1 or CNrasGEF, functions as a guanine nucleotide exchange factor that activates Rap and Ras family GTPases by exchanging GDP for GTP in a cAMP-dependent manner. It serves as a critical link between cell surface receptors and intracellular signaling cascades, influencing processes such as neuritogenesis, neuron migration, and embryonic blood vessel formation. The protein also acts as an effector for Rap1, amplifying Rap1-mediated signaling, and is involved in regulating melanogenesis, melanoma cell proliferation, and endothelial junction integrity. Localized primarily in the cytoplasm, perinuclear region, and cell membrane, RAPGEF2 translocates to late endosomes upon neuronal growth factor stimulation and associates with synaptic plasma membranes, highlighting its importance in neuronal and vascular biology.