Recombinant ARHGI protein (His tag)

Catalog Number	542967
Synonyms	114 kDa Rho-specific guanine nucleotide exchange factor; p114-Rho-GEF; p114RhoGEF; Septin-associated RhoGEF; SA-RhoGEF
Species	Human
Expression System	E. coli
Accession	Q6ZSZ5
Molecular Weight	Predictes a molecular mass of 56.95 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 63 kDa band.

Product Information

Sequence Region	407-888
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>89%, 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 407-888 aa (Q6ZSZ5) 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 ARHGEF18 (407-888) Fragment: A high-purity, functional protein fragment encompassing the DH and PH domains of Rho guanine nucleotide exchange factor 18. This product is an essential tool for studying RhoA and RAC1 activation, actin cytoskeleton regulation, and G-protein coupled receptor signaling pathways in vitro. The full-length ARHGEF18 protein, also known as p114RhoGEF or SA-RhoGEF, functions as a guanine nucleotide exchange factor (GEF) that specifically activates RhoA GTPases, leading to actin stress fiber formation. It also activates RAC1, inducing reactive oxygen species production, while showing no activity toward CDC42. Notably, ARHGEF18 integrates signals from G-protein coupled receptors through interaction with Gβγ subunits, explaining its role in cellular responses to ligands like LPA. The protein localizes to cytoplasmic, cytoskeletal, and membrane compartments, with dynamic redistribution observed during cell activation. In epithelial cells, it localizes to the apical cell membrane and is required for EPB41L4B-mediated regulation of the circumferential actomyosin belt, highlighting its importance in cell shape maintenance and structural organization.