Recombinant RPGR protein (His tag)

Catalog Number	540913
Species	Human
Expression System	E. coli
Accession	Q92834
Molecular Weight	Predictes a molecular mass of 41.64 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 42 kDa band.

Product Information

Sequence Region	1-369
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>86%, 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 1-369 aa (Q92834) 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 X-linked retinitis pigmentosa GTPase regulator (RPGR) fragment (residues 1-369) is a high-quality protein product designed for structural and biochemical studies. This stable, soluble fragment enables researchers to investigate RPGR's role as a guanine-nucleotide exchange factor (GEF) for RAB8A and RAB37, with applications in ciliary biology and retinal function research. The full-length X-linked retinitis pigmentosa GTPase regulator (RPGR) functions as a guanine-nucleotide releasing factor that activates RAB8A and RAB37 by promoting the conversion of inactive RAB-GDP to active RAB-GTP. Its GEF activity toward RAB8A facilitates ciliary trafficking by modulating RAB8A's intracellular localization within cilia, while its activity toward RAB37 maintains autophagic homeostasis and retinal function. RPGR plays critical roles in photoreceptor integrity, cilia formation through regulation of actin stress filaments and cell contractility, microtubule organization, and intraflagellar transport processes. It localizes to multiple subcellular compartments including the cytoplasm, cytoskeleton, flagellum axoneme, Golgi apparatus, and cell projection cilia, with specific localization at the connecting cilium in retinal photoreceptor cells where it colocalizes with WHRN, CEP290, and RPGRIP1. Alternative isoforms show additional localization to the centrosome, cilium basal body, and cilium axoneme.