# Recombinant RAP1A protein (His tag)

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| **Catalog Number** | 544768 |
| **Synonyms** | C21KG; G-22K; GTP-binding protein smg p21A; Ras-related protein Krev-1 |
| **Species** | Human |
| **Expression System** | E. coli |
| **Accession** | P62834 |
| **Molecular Weight** | Predictes a molecular mass of 22.30 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 23 kDa band. |

## Product Information

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| **Sequence Region** | 1-181 |
| **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 1-181 aa (P62834) were fused with 6His tag. |

## Storage & Handling

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| **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.<br>Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise. |

## Description

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| **Description** | Recombinant human Ras-related protein Rap-1A (fragment 1-181) is a high-quality protein product designed for structural and functional studies. This fragment represents a stable, soluble unit of Rap-1A, optimized for biochemical and biophysical analyses, enabling researchers to investigate its role in counteracting Ras-mediated mitogenic signaling and cellular junction regulation.<br>Ras-related protein Rap-1A (RAP1A) is a GTP-binding protein that antagonizes Ras mitogenic functions by competitively interacting with Ras GAPs and RAF. It plays critical roles in nerve growth factor-induced neurite outgrowth, embryonic blood vessel formation, and endothelial barrier function. Rap-1A facilitates CDH1 accumulation at desmosome junctions via cAMP-dependent signaling and regulates vascular endothelial growth factor receptor KDR expression at endothelial cell-cell junctions. Subcellularly, it localizes to the cell membrane (via lipid anchor), cytoplasm, perinuclear region, cell junctions, and early endosomes, and is recruited to late endosomes upon nerve growth factor stimulation. This recombinant fragment (residues 1-181) encompasses key functional domains, providing a valuable tool for studying Rap-1A's mechanisms in cellular signaling and junctional dynamics. |