# Recombinant RAIN protein (His tag)

| | |
|---|---|
| **Catalog Number** | 547456 |
| **Synonyms** | Rain |
| **Species** | Human |
| **Expression System** | E. coli |
| **Accession** | Q5U651 |
| **Molecular Weight** | Predictes a molecular mass of 49.86 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 52 kDa band. |

## Product Information

| | |
|---|---|
| **Sequence Region** | 529-963 |
| **Form** | Lyophilized powder |
| **Formulation** | Lyophilized from sterile PBS, pH 7.4 |
| **Purity** | >87%, 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 529-963 aa (Q5U651) 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.<br>Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise. |

## Description

| | |
|---|---|
| **Description** | Recombinant Ras-interacting protein 1 (Rain) fragment (529-963) from Homo sapiens, designed to include the complete Dilute domain (600-897). This high-purity protein is an essential tool for investigating vascular development, GTPase signaling regulation, and endothelial cell morphogenesis in research applications.<br>Ras-interacting protein 1 (Rain), encoded by the RASIP1 gene, is crucial for proper vascular structure formation through both vasculogenesis and angiogenesis. It functions as a vascular-specific regulator of GTPase signaling, cell architecture, and adhesion, directly influencing endothelial cell morphogenesis and blood vessel tubulogenesis. The protein modulates Rho GTPase activity by recruiting ARHGAP29 to suppress RhoA signaling and reduce ROCK and MYH9 activities in endothelial cells. Additionally, it may serve as an effector for Golgi-bound HRAS and related proteins, potentially promoting HRAS-mediated transformation, and acts as a negative regulator of amino acid starvation-induced autophagy.<br>Subcellularly, Rain localizes to the cytoplasm in perinuclear regions and the Golgi apparatus stacks, where it associates with perinuclear vesicles and is recruited by activated HRAS, underscoring its role in intracellular signaling and membrane trafficking processes. |