Recombinant CI072 protein (His tag)

Catalog Number	541032
Species	Human
Expression System	E. coli
Accession	Q96LT7
Molecular Weight	Predictes a molecular mass of 55.99 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 57 kDa band.

Product Information

Sequence Region	1-481
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>85%, 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 1-481 aa (Q96LT7) 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 Guanine Nucleotide Exchange Factor C9orf72 (amino acids 1-481) is a high-purity protein fragment encompassing the complete uDENN, cDENN, and dDENN functional domains. This product is an essential tool for investigating the protein's role as a guanine nucleotide exchange factor (GEF) for Rab GTPases, autophagy regulation, and intracellular trafficking mechanisms in research applications. The full-length Guanine Nucleotide Exchange Factor C9orf72, encoded by the C9orf72 gene in Homo sapiens, functions as a key regulator of intracellular membrane trafficking and autophagy. It acts as a GEF for multiple Rab GTPases, including RAB39A, RAB8A, and RAB39B, promoting their activation from GDP- to GTP-bound states. This activity is crucial for autophagosome-lysosome membrane tethering and fusion, autophagosome maturation, and ULK1/ATG1 kinase complex trafficking to phagophores. The protein also regulates mTORC1 signaling, endosomal trafficking, actin dynamics in motor neurons through ARF6 inhibition, and stress granule assembly (specifically through Isoform 1). It localizes to various subcellular compartments, including cytoplasm, nucleus, endosomes, lysosomes, autophagosomes, autolysosomes, and neuronal projections, reflecting its multifaceted roles in cellular homeostasis. The C9orf72-SMCR8 complex, in which it participates, further modulates autophagy initiation and Rab GTPase activity.