Recombinant TBCD7 protein (His tag)

Catalog Number	541425
Synonyms	Cell migration-inducing protein 23
Species	Human
Expression System	E. coli
Accession	Q9P0N9
Molecular Weight	Predictes a molecular mass of 35.63 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 36 kDa band.

Product Information

Sequence Region	1-293
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 1-293 aa (Q9P0N9) 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 TBC1D7 (TBC1 domain family member 7) fragment (1-293) from Homo sapiens, encompassing the complete Rab-GAP TBC domain. This high-purity protein is an essential tool for investigating mTORC1 signaling regulation, cellular nutrient sensing, and vesicular trafficking mechanisms in research applications. TBC1D7 is a non-catalytic component of the TSC-TBC complex, a critical negative regulator of mTORC1 signaling that controls cellular growth and anabolic processes in response to nutrient availability. The complex acts as a GTPase-activating protein (GAP) for RHEB, directly inhibiting mTORC1 activity under nutrient-deprived conditions. TBC1D7 exhibits dynamic subcellular localization, associating with lysosomal membranes during nutrient starvation and translocating to the cytosol upon nutrient stimulation. This shuttling between lysosomal membranes and cytoplasmic vesicles enables precise spatiotemporal control of mTORC1 signaling, making TBC1D7 a key player in cellular metabolism and growth regulation pathways.