Recombinant TPRKB protein (His tag)

Catalog Number	539292
Synonyms	PRPK-binding protein; TP53RK-binding protein
Species	Human
Expression System	E. coli
Accession	Q9Y3C4
Molecular Weight	Predictes a molecular mass of 21.32 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 21 kDa band.

Product Information

Sequence Region	1-175
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 1-175 aa (Q9Y3C4) 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 EKC/KEOPS complex subunit TPRKB (PRPK-binding protein), encompassing amino acids 1-175, is a high-quality protein fragment designed for structural and functional studies. This fragment represents a stable and soluble unit, ideal for investigating tRNA modification mechanisms and the allosteric regulation of the EKC/KEOPS complex in biochemical assays. TPRKB is a key component of the EKC/KEOPS complex, essential for the formation of the threonylcarbamoyl group at position 37 (t(6)A37) in tRNAs that decode codons starting with adenine. This modification is critical for translational fidelity and efficiency. The complex facilitates the transfer of the threonylcarbamoyl moiety from threonylcarbamoyl-AMP to tRNA, with TPRKB serving as an allosteric effector that modulates the t(6)A activity without being directly required for the tRNA modification process itself. TPRKB localizes to both the cytoplasm (cytosol) and the nucleus, reflecting its involvement in fundamental cellular processes. The provided fragment (1-175) has been computationally optimized for stability and solubility, enabling detailed exploration of its structural and functional roles.