Recombinant TPRN protein (His tag)

Catalog Number	540425
Species	Human
Expression System	E. coli
Accession	Q4KMQ1
Molecular Weight	Predictes a molecular mass of 11.20 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 11 kDa band.

Product Information

Sequence Region	1-90
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>88%, 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 1-90 aa (Q4KMQ1) 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 Taperin (TPRN) Fragment (1-90) is a high-quality protein product designed for structural and biochemical research. This 90-amino acid fragment represents a stable, soluble region of Taperin, essential for hearing function and actin cytoskeleton regulation, providing researchers with a reliable tool for investigating stereocilia maintenance and cellular signaling pathways. Taperin (TPRN) is a crucial protein essential for hearing function, playing a vital role in the maintenance of stereocilia on both inner and outer hair cells. It is necessary for the integrity of the stereociliary rootlet and functions as an actin cytoskeleton regulator involved in the regulation of actin dynamics at the pointed end in hair cells. Taperin forms rings at the base of stereocilia and binds actin filaments, which may stabilize the stereocilia structure. Additionally, it acts as a strong inhibitor of PPP1CA phosphatase activity and is recruited to sites of DNA damage, suggesting a potential role in DNA damage repair mechanisms. The protein localizes prominently at the basal taper region of hair cell stereocilia, forming organized ring-like structures with diameters ranging from 150 to 200 nm in the stereocilium taper region. It is also detected in microvilli of inner hair cell supporting cells and shows dynamic subcellular distribution, being predominantly nuclear in non-stereocilium cells while capable of shuttling between the nucleus and cytoplasm.