Recombinant PROF4 protein (His tag)

Catalog Number	551227
Synonyms	Profilin IV
Species	Human
Expression System	E. coli
Accession	Q8NHR9
Molecular Weight	Predictes a molecular mass of 15.97 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 16 kDa band.

Product Information

Sequence Region	1-129
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 1-129 aa (Q8NHR9) 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 Profilin-4 (PFN4) Fragment (1-129) is a high-purity protein preparation designed for research on male fertility mechanisms. This carefully selected fragment represents a stable, soluble unit of Profilin-4, optimized for structural studies and biochemical characterization of this unique profilin family member involved in spermatogenesis. Profilin-4 is a specialized member of the profilin family that plays a critical role in male fertility through its involvement in manchette development and acrosome biogenesis during spermiogenesis. Unlike other profilin family members, Profilin-4 does not bind to actin but instead demonstrates binding affinity to various phospholipids including phosphatidylinositol 3-phosphate, phosphatidylinositol 4,5-bisphosphate, phosphatidylinositol 4-phosphate, and phosphatidic acid. The protein exhibits dynamic subcellular localization during spermatogenesis, initially appearing in the acroplaxome of round spermatids, then relocalizing to the developing manchette in spermatids step 8, and finally moving to the cytoplasm adjacent to the disassembling manchette in later stages. This localization pattern underscores its essential role in the structural organization and maturation of sperm cells.