Recombinant TXND2 protein (His tag)

Catalog Number	540646
Synonyms	Spermatid-specific thioredoxin-1; Sptrx-1
Species	Human
Expression System	E. coli
Accession	Q86VQ3
Molecular Weight	Predictes a molecular mass of 14.24 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 17 kDa band.

Product Information

Sequence Region	443-553
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>90%, 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 443-553 aa (Q86VQ3) 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 Thioredoxin domain-containing protein 2 (TXNDC2) Fragment (residues 443-553) is a high-purity, stable protein fragment designed for structural and biochemical studies. This 111-amino acid fragment represents a soluble and functional unit of Sptrx-1, enabling research into its role in sperm development and disulfide bond regulation. Thioredoxin domain-containing protein 2 (Sptrx-1), encoded by the TXNDC2 gene, plays a crucial regulatory role in sperm development. It supports fibrous sheath assembly during sperm tail morphogenesis by facilitating proper disulfide bond formation between structural components. The protein demonstrates thioredoxin activity, capable of reducing disulfide bonds in vitro when coupled with NADP and thioredoxin reductase. Cellular localization studies show that in ejaculated spermatozoa, Sptrx-1 is present from the caudal region of the head through the principal piece of the tail, indicating its specific involvement in sperm tail structure and function. The selected fragment (443-553) was computationally optimized to provide a stable, soluble representation of the protein for experimental applications.