Recombinant TTYH1 protein (His tag)

Catalog Number	548228
Synonyms	hTTY1; Volume-regulated anion channel subunit TTYH1
Species	Human
Expression System	E. coli
Accession	Q9H313
Molecular Weight	Predictes a molecular mass of 15.81 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 16 kDa band.

Product Information

Sequence Region	262-390
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 262-390 aa (Q9H313) 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 Protein tweety homolog 1 (hTTY1) fragment (residues 262-390) is a high-purity, stable product derived from the human volume-regulated anion channel subunit TTYH1. This fragment is optimized for structural and biochemical studies, offering researchers a soluble unit to investigate the protein's role in regulatory volume decrease and anion transport mechanisms. Protein tweety homolog 1 (hTTYH1), encoded by the TTYH1 gene in Homo sapiens, functions as a calcium-independent, swelling-dependent volume-regulated anion channel (VRAC-swell). It plays a critical role in regulatory volume decrease (RVD) in the brain by facilitating the efflux of anions such as chloride and organic osmolytes like glutamate, helping maintain cellular homeostasis under osmotic stress. Isoform 3 has been implicated in Ca^{2+}-independent, swelling-activated chloride channel activity, potentially contributing to cell volume regulation. The full-length protein is localized to the cell membrane as a multi-pass membrane protein, underscoring its importance in transmembrane ion transport processes. This recombinant fragment provides a focused tool for elucidating these vital functions.