Recombinant ITCH protein (His tag)

Catalog Number	547983
Synonyms	Itch; Atrophin-1-interacting protein 4; AIP4; HECT-type E3 ubiquitin transferase Itchy homolog; NFE2-associated polypeptide 1; NAPP1
Species	Human
Expression System	E. coli
Accession	Q96J02
Molecular Weight	Predictes a molecular mass of 17.36 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 17 kDa band.

Product Information

Sequence Region	2-144
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 2-144 aa (Q96J02) 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 E3 ubiquitin-protein ligase Itchy homolog (Itch) fragment (residues 2-144) is a high-quality, stable protein product designed for structural and biochemical studies. This fragment, derived from the full-length Itch enzyme (EC 2.3.2.26), represents a soluble and well-folded region ideal for investigating ubiquitination mechanisms and protein interactions in controlled experimental settings. The full-length E3 ubiquitin-protein ligase Itchy homolog (Itch), encoded by the ITCH gene in Homo sapiens, is a HECT-type E3 ubiquitin transferase that plays a pivotal role in ubiquitination pathways. It accepts ubiquitin from E2 conjugating enzymes and directly transfers it to substrate proteins, catalyzing Lys-29-, Lys-48-, and Lys-63-linked ubiquitin conjugations. Itch is a key regulator of inflammatory signaling, immune response, and apoptosis, functioning in complexes to control NFKB1 activation, degrade proteins like RIPK1 and MAVS, and modulate transcription factors such as JUNB and NFE2. It also influences endocytic sorting of receptors like CXCR4 and FZD4, and is involved in antiviral responses by targeting influenza A virus matrix protein. Subcellularly, Itch localizes to the cell membrane, cytoplasm, nucleus, and endosomal membranes, and its recruitment to exosomes and plasma membrane upon stimulation underscores its dynamic regulatory roles in cellular homeostasis and disease processes.