Recombinant UBD protein (His tag)

Catalog Number	546449
Synonyms	Diubiquitin; Ubiquitin-like protein FAT10
Species	Human
Expression System	E. coli
Accession	O15205
Molecular Weight	Predictes a molecular mass of 20.13 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 20 kDa band.

Product Information

Sequence Region	1-165
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>87%, 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 1-165 aa (O15205) 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 Ubiquitin D (Diubiquitin) Fragment (residues 1-165) is a high-purity protein designed for studying ubiquitin-like domain functions. This fragment fully encompasses both Ubiquitin-like domains (residues 6-81 and 90-163), making it an ideal tool for investigating protein degradation pathways, NF-kappa-B signaling regulation, and cell cycle mechanisms. Ubiquitin D (UBD), also known as FAT10, is a ubiquitin-like protein modifier that plays crucial roles in protein degradation through the 26S proteasome in a NUB1-dependent manner. Its conjugation to target proteins is activated by UBA6 via adenylation of its C-terminal glycine. The protein significantly regulates immune responses by promoting TNF-alpha-mediated degradation of ubiquitinated-I-kappa-B-alpha, thereby modulating NF-kappa-B activation. It also contributes to dendritic cell maturation, mitotic regulation through effects on MAD2L1 kinetochore localization, and apoptosis in renal epithelial cells. Under proteasome impairment, UBD accumulates in cytoplasmic aggresomes, though it primarily localizes to the nucleus under normal conditions. The full-length protein's diverse functions in protein degradation, immune regulation, and cell cycle control make it a valuable target for research in cancer biology, immunology, and renal pathophysiology.