

Product Name: UBE2S-UBD

Alternate Names: Synthetic chimera often abbreviated UBE2S-IsoT or UBE2S-UPS5

Product Code: TAP-067

FOR RESEARCH USE ONLY (RUO)

Verified Applications / Usage

Recombinant Ubiquitin Conjugating Enzyme UBE2S-UBD accepts activated ubiquitin from Ubiquitin Activating Enzyme 1 (an E1) in *in vitro* reactions. This charged E2 fusion protein subsequently generates unanchored polyubiquitin chains. Appropriate enzyme concentrations are specific to the application.

Physical Characteristics

Species: Human

Predicted MW (kDa): 36 kDa

Source: *E. coli* BL21(DE3) A.I.

Purity: 95 %

Tag: N-His₈

Formulation: 40 mM HEPES, 100 mM NaCl, 10% Glycerol, 1 mM EDTA, 1 mM TCEP, pH 7.6

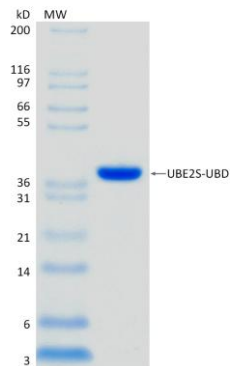
Shipping: The product is shipped with dry ice. Upon receipt, store it immediately at the temperature recommended below.

Stability/Storage: Use a manual defrost freezer and avoid repeated freeze-thaw cycles. Aliquot and store ≤ -70°C (stable for 24 months from date of receipt).

Quality Assurance

Purity & SDS-PAGE

Protein ID: Ubiquitin carboxyl-terminal hydrolase 5
 Ubiquitin-conjugating enzyme E2 S



2 µg UBE2S-UBD run on 4-12% SDS-PAGE gel under reducing conditions, then visualized with Colloidal Coomassie Blue Stain.

Activity Assay

Verified in Polyubiquitin Chain Synthesis Assay.

Background

Description

UBE2S-UBD is an engineered fusion comprising the Lys11-specific E2 conjugating enzyme UBE2S tethered to the zinc-finger ubiquitin-binding domain (ZnF-UBP) of Isopeptidase T/USP5. The IsoT module latches onto the C-terminal diglycine of an “acceptor” ubiquitin (Ub), positioning it in *cis* for rapid nucleophilic attack and thereby eliminating the need for a separate chain-initiating E2. *In vitro*, UBE2S-UBD is a go-to reagent for the preparation of K11-linked polyubiquitin chains, but unlike wild-type UBE2S, this fusion protein also produces low levels of K63-linked polyubiquitin.

Accession Number: Q16763

Entrez Gene ID: UBE2S

Accession Number: P45974

Entrez Gene ID: USP5

Protein Sequence

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MGSHHHHHHHHEGSGSMNSNVENLPPIIIRLVYKEVTTLTADPPDGIKVFNPNEEDLTDLQVTI
EGPEGTPYAGGLFRMKLLLGKDFPASPPKGYFLTKIFHPNVGANGEICVNVLKRDWTAELGIR
HVLITIKCLLIHPNPESALNEEAGRLLLENYEEYAARARLLTEIHGGAGGPGSGRAEAGRALAS
GTEASSTDPGAPGGPGGAEGPMVRQVSKHAFSLKQLDNPARIPPCGWKCSKCDMRENLWLNLT
DGSILCGRRYFDGSGGNNHAVEHYRETGYPLAVKLGTITPDGADVYSYDEDDMVLDPSLAEHL
SHFGIDMLKMQKT
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