

UBE2W Protein, Human (His)

Cat. No.:	HY-P77272
Synonyms:	Ubiquitin-conjugating enzyme E2 W; UBC-16; Ubiquitin-protein ligase W; UBC16
Species:	Human
Source:	E. coli
Accession:	Q96B02 (M1-C151)
Gene ID:	55284
Molecular Weight:	Approximately 18kDa

PROPERTIES

AA Sequence	M A S M Q K R L Q K E L L A L Q N D P P P G M T L N E K S V Q N S I T Q W I V D M E G A P G T L Y E G E K F Q L L F K F S S R Y P F D S P Q V M F T G E N I P V H P H V Y S N G H I C L S I L T E D W S P A L S V Q S V C L S I I S M L S S C K E K R R P P D N S F Y V R T C N K N P K K T K W W Y H D D T C
Biological Activity	Under ATP and E1 conditions, UBE2W binds with ubiquitin molecules to form thioester complexes UBE2W-Ub.
Appearance	Lyophilized powder
Formulation	Lyophilized from a 0.2 µm filtered solution of 20 mM Tris, 100 mM Arg.0.1% Brij35, pH 8.5 or 50 mM Tris-HCL, 300 mM NaCl, pH 8.0.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	<p>UBE2W, a versatile ubiquitin-conjugating enzyme, fulfills a crucial role in cellular processes by accepting ubiquitin from the E1 complex and catalyzing its covalent attachment to diverse substrates (PubMed:20061386, PubMed:21229326). Notably, UBE2W exhibits a unique ability to monoubiquitinate the N-terminus of various substrates, including ATXN3, MAPT/TAU, POLR2H/RPB8, and STUB1/CHIP, showcasing its specificity for disordered N-termini (PubMed:23560854, PubMed:23696636, PubMed:25436519). This monoubiquitination process plays a critical role in the degradation of misfolded chaperone substrates, as UBE2W mediates the monoubiquitination of STUB1/CHIP, leading to the recruitment of ATXN3 and restriction</p>
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of the ubiquitin chain length attached to STUB1/CHIP substrates (PubMed:23696636, PubMed:25436519). Moreover, UBE2W, particularly activated by UV irradiation, acts as a specific E2 ubiquitin-conjugating enzyme for the Fanconi anemia complex, collaborating with E3 ubiquitin-protein ligase FANCL to catalyze monoubiquitination of FANCD2, a crucial step in the DNA damage response pathway (PubMed:19111657, PubMed:21229326). In addition to its versatile monoubiquitination capabilities, UBE2W can catalyze 'Lys-11'-linked polyubiquitination in vitro, demonstrating its flexibility in ubiquitin chain formation (PubMed:25436519).

Caution: Product has not been fully validated for medical applications. For research use only.

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