UbcH2 (human), (recombinant) (His-tag)

Ubiquitinylation of proteins constitutes an important cellular mechanism for targeting short-lived proteins for degradation by the 26S proteasome. Three classes of enzymes are involved in the conjugation of ubiquitin to proteins. E1, the ubiquitin activating enzyme, activates ubiquitin through the ATP-dependent formation of a high-energy thiol ester bond between the carboxyl terminus of ubiquitin and the active-site cysteine within E1. This E1-activated ubiquitin is transferred to a cysteine residue of an E2, or ubiquitin-conjugating enzyme (UbC). E2 enzymes, either by themselves or in conjunction with E3 enzymes (ubiquitin ligases), then transfer ubiquitin to target proteins forming stable isopeptide bonds resulting in multi-ubiquitin chain formation. It is the diverse combinations of E2-E3 complexes which are thought to define substrate specificity.

UbcH2 is the human homolog to the yeast DNA repair gene RAD6, which is induced by DNA damaging reagents. It has been shown to conjugate ubiquitin to histone H2A in an E3 dependent manner *in vitro*, work which clearly demonstrated that UbcH2 consists of two functionally independent domains, an N-terminal core domain with ubiquitin conjugating activity, and a C-terminal domain which interacts with substrate proteins. UbcH2 has been associated with cancer-induced cachexia and with the regulation of sepsis-induced muscle proteolysis.

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Ordering Information

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BML-UW9025-0100	100µg

Manuals, SDS & CofA

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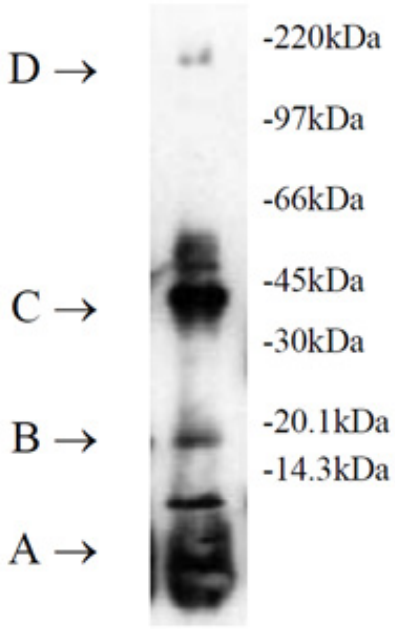

Labels are as follows: A – biotinylated ubiquitin; B – probably biotinylated di-ubiquitin; C – biotinyl-ubiquitin thiol ester linked UbcH2; D – biotinylubiquitin thiol ester linked E1.

Handling & Storage

Use/Stability	Enzyme is stable to multiple freeze/thaw cycles.
Long Term Storage	-80°C
Shipping	Dry Ice

Regulatory Status

RUO - Research Use Only

Product Details

Application Notes	Useful for *in vitro* ubiquitinylation reactions. Typical enzyme concentration to support conjugation *in vitro* is 100nM to 1µM depending upon conditions. The His-tagged version of this enzyme is not susceptible to self-ubiquitinylation, which can occur with GST-tagged versions.
Biological Activity	Recombinant UbcH2 charges and supports ubiquitinylation *in vitro*.
Formulation	Liquid. In 20 mM Tris-HCl, pH 7.5, containing 0.5mM DTT.
MW	~22.2kDa
Purity	≥95% (SDS-PAGE)
Source	Produced in *E. coli*.
UniProt ID	P62256

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