

UbcH5b (human), (recombinant) (His- tag)

A number of E2s in *Saccharomyces cerevisiae* and their homologues have been identified. One such family of E2s is the UBC4/5, characterised as essential for the degradation of short-lived, regulatory and abnormal proteins. Protein levels of *S. cerevisiae* UbC4/5 are up-regulated in response to stress, and their loss results in severe effects on cellular functions.

A human gene product that is 79% identical to *S. cerevisiae* UBC4/5 in amino-acid sequence was identified as Ubch5a. In addition, two other human members of this highly conserved E2 class were also cloned and designated as Ubch5b and Ubch5c, having 88% and 89% identity to Ubch5a, respectively.

Members of the Ubch5a/b/c are the most active class of E2s in cell extracts. The importance of this enzyme class is underscored by the critical role of UBC4/5 in *S. cerevisiae*. Ubch5a stimulates the conjugation of ubiquitin to the tumour-repressor p53 in the presence of E6-AP and E6. Moreover, Ubch5 family is implicated in c-fos recognition, the modulation of which is controlled by the ubiquitin-proteasome pathway. Ubch5b and Ubch5c are associated with the signal-induced conjugation and subsequent degradation of IκBα in the presence of the SCF complexes. Ubch5c also catalyses the ubiquitination leading to the processing of p105 precursor to form p50, a subunit of the heterodimeric transcription factor NF-κB. The range and diversity of substrates and E3s with which this class of E2 enzymes interact, suggest their complex roles in cellular functions require to be studied further.

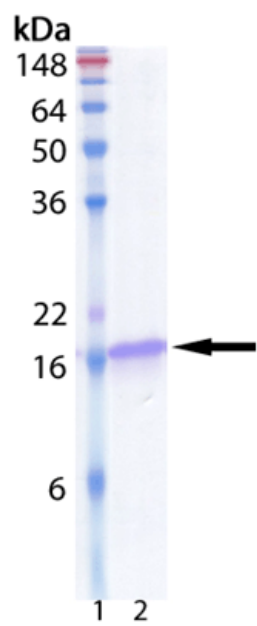
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Ordering Information

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BML-UW9060-1000	1mg
BML-UW9060-0100	100µg



SDS-PAGE analysis: Lane 1: MW Marker, Lane 2: 1 μ g Ubch5b (human), (recombinant) (His-tag).

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. The His-tagged version of this enzyme is not susceptible to self-ubiquitinylation, which can occur with GST-tagged versions.

Biological Activity The His6-tagged fusion proteins of Ubch5a, Ubch5b and Ubch5c all charge and support ubiquitinylation *in vitro*. Unlike their GST-tagged counterparts, the His6-tagged Ubch5 family members all appear to form thiol ester conjugates with ubiquitin at a similar rate under similar conditions. The [C⁸⁵A] mutation (Prod. No. BML-UW9065) completely abolishes the ability of the enzyme to form a thiol ester and thereby acts as an excellent negative control.

Formulation Liquid. In 25mM TRIS-HCl, pH 7.5, containing 150mM NaCl and 0.5mM DTT.

MW ~18kDa

Purity ≥90% (SDS-PAGE)

Source Produced in *E. coli*.

UniProt ID P62837



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