

Background

UBE2K, also known as UbcH1 or E2-25K, is an E2 (ubiquitin-conjugating enzyme) involved in the conjugation of ubiquitin to target substrates, along with E1 and E3 enzymes. Once an E1 enzyme carries an activated ubiquitin in a ubiquitin–E1 thioester complex, this activated ubiquitin is transferred to the active-site cysteine of the E2 to form a ubiquitin–E2 thioester complex. With the aid of an E3 ligase, the activated ubiquitin is then targeted to a specific substrate lysine. UBE2K is a biochemically important E2 due to its ability to form free K48-linked polyubiquitin chains in solution, even in the absence of an E3. This activity is attributed to UbcH1 possessing a C-terminal UBA domain in addition to its E2 catalytic domain.

Alternate Names

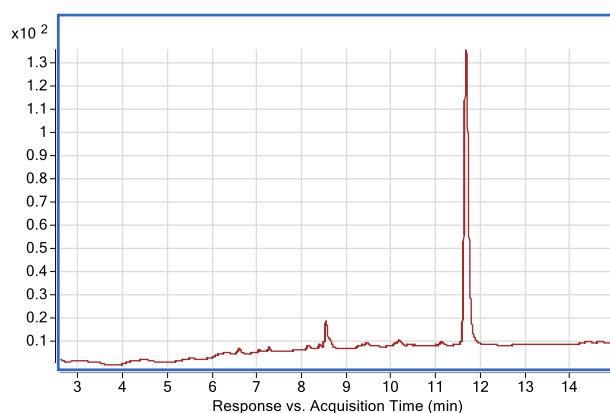
Ubiquitin-Conjugating Enzyme E2K, Huntingtin-Interacting Protein 2 (HIP-2), Ubiquitin-Conjugating Enzyme E2-25K (E2-25K), UbcH1, LIG, HYPG, UBC1

Application(s)

Ubiquitin ligation reactions

Product Specifications

Tag	His ₆
Purity	> 95% by RP-HPLC
Molecular Weight	23,400.7 Da
Quantity	20 µl or 75 µl of a 40 µM solution (0.8 and 3 nmoles, respectively)
Species	Human, recombinant; Accession No. P61086
Expression System	<i>E. Coli</i>
Physical State	Liquid
Buffer	50 mM HEPES, pH 7.5, 150 mM NaCl, 1 mM TCEP
Solubility	> 3 mg/mL
Stability & Storage	Over 1 year at -80°C. Avoid repeated freeze/thaw cycles

Product QC**RP-HPLC****References**

1. Pluska L, Jarosch E, Zauber H, et al. The UBA domain of conjugating enzyme Ubc1/Ube2K facilitates assembly of K48/K63-branched ubiquitin chains. *EMBO J.* 2021;40(6):e106094.
2. Lee JG, Youn HS, Kang JY, et al. Crystal structure of the Ube2K/E2-25K and K48-linked di-ubiquitin complex provides structural insight into the mechanism of K48-specific ubiquitin chain synthesis. *Biochem Biophys Res Commun.* 2018;506(1):102-107.

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