

# UBE2R2 (CDC34B) [6His-tagged]

## E2 – Ubiquitin Conjugating Enzyme

Alternate Names: CDC34B, EC 6.3.2.19, FLJ20419, MGC10481, UBC3B

Cat. No. **62-0094-020**  
Lot. No. **2121**

Quantity: 20 µg  
Storage: -70°C

FOR RESEARCH USE ONLY

NOT FOR USE IN HUMANS



CERTIFICATE OF ANALYSIS Page 1 of 1

### Background

The enzymes of the ubiquitylation pathway play a pivotal role in a number of cellular processes including the regulated and targeted proteasomal degradation of substrate proteins. Three classes of enzymes are involved in the process of ubiquitylation; activating enzymes (E1s), conjugating enzymes (E2s) and protein ligases (E3s). UBE2R2 is a member of the E2 conjugating enzyme family and cloning of the human gene was first described by Semplici *et al.* (2002). Site directed mutagenesis studies have shown that serine 233 in the C-terminal domain of UBE2R2 is the site at which CK2-dependent phosphorylation occurs (Semplici *et al.*, 2002). *In vitro* binding experiments have also demonstrated that phosphorylated UBE2R2 and UBE2R1 bind specifically to the F-box protein beta-TRCP, which results in enhanced degradation of beta-catenin (a substrate of the Beta Transducin Repeat Containing protein (BTRC) (Semplici *et al.*, 2002).

### References:

Semplici F, Meggio F, Pinna LA, Oliviero S (2002) CK2-dependent phosphorylation of the E2 ubiquitin conjugating enzyme UBC3B induces its interaction with beta-TrCP and enhances beta-catenin degradation. *Oncogene* 21, 3978-87.

### Physical Characteristics

**Species:** human

**Source:** *E. coli* expression

**Quantity:** 20 µg

**Concentration:** 1 mg/ml

**Formulation:** 50 mM HEPES pH 7.5,  
150 mM sodium chloride, 2 mM  
dithiothreitol, 10% glycerol

**Molecular Weight:** ~31 kDa

**Purity:** >98% by InstantBlue™ SDS-PAGE

**Stability/Storage:** 12 months at -70°C;  
aliquot as required

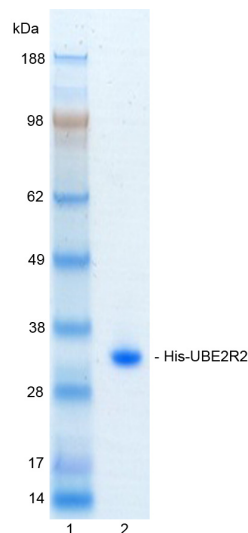
### Protein Sequence:

**M G S S H H H H H S S G** L V P R G S H M A S M T G  
G Q Q M G R G S **M A Q Q Q M T S S Q K A L M L E L K**  
S L Q E E P V E G F R I T L V D E S D L Y N W E V A I F G P  
P N T L Y E G G Y F K A H I K F P I D Y P S P T F R F L T K  
M W H P N I Y E N G D V C I S I L H P P V D D P Q S G E L P S  
E R W N P T Q N V R T I L L S V I S L L N E P N T F S P A N V  
D A S V M F R K R W R D S K G K D K E Y A E I I R K Q V S A T  
K A E A E K D G V K V P T T L A E Y C I K T K V P S N D N S  
S D L L Y D D L Y D D D I D D E D E E E E D A D C Y D D D D S  
G N E E S

Tag (**bold text**): N-terminal His  
Protease cleavage site: PreScission™ (LVPR▼GS)  
UBE2R2 (regular text): Start **bold italics** (amino acid  
residues 1-238)  
Accession number: AAH04862

### Quality Assurance

**Purity:**  
4-12% gradient SDS-PAGE  
InstantBlue™ staining  
Lane 1: MW markers  
Lane 2: 1 µg His-UBE2R2



### Protein Identification:

Confirmed by mass spectrometry.

### E2-Ubiquitin Thioester Loading Assay:

The activity of His-UBE2R2 was validated by loading E1 UBE1 activated ubiquitin onto the active cysteine of the His-UBE2R2 E2 enzyme via a transthiolation reaction. Incubation of the UBE1 and His-UBE2R2 enzymes in the presence of ubiquitin and ATP at 30°C was compared at two time points, T<sub>0</sub> and T<sub>10</sub> minutes. Sensitivity of the ubiquitin/His-UBE2R2 thioester bond to the reducing agent DTT was confirmed.



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Lot-specific COA version tracker: v1.0.0