

UBE2R2 (CDC34B) [untagged]

E2 – Ubiquitin Conjugating Enzyme

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

Cat. No. **62-0098-100**
Lot. No. **30194**

Quantity: 100 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).

Reference:

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: 100 µg

Concentration: 1 mg/ml

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

Molecular Weight: ~29 kDa

Purity: >75% by InstantBlue™ SDS-PAGE

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

Protein Sequence:

GSHMASMTGGQQMGRGS**MA**QQQMTSSQKALM
LELKSLQEEPVEGFRIITLVDES~~DLYNWEVAIF~~
GPPNTLYEGGYFKAHIKFPIDYPYSPPT
FRFLTKMWHPNYENGDVCSILHPPVDDPQS
GELPSE~~RWNPTQ~~NVRTILLSVISLLNEPNTF
SPANVDASVMFRKWRDSKGDKEYAEI
IRKQVSATKAEAEKDGKVPPTTAEYCIKT
KVPSNDNSSDLLYDDLYDDDDIDDEDEEEDAD
CYDDDDSGNEES

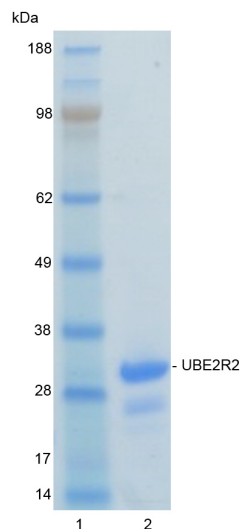
The residues underlined remain after cleavage and removal of the purification tag.

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 UBE2R2



Protein Identification:

Confirmed by mass spectrometry.

E2-Ubiquitin Thioester Loading Assay:

The activity of UBE2R2 was validated by loading E1 UBE1 activated ubiquitin onto the active cysteine of the UBE2R2 E2 enzyme via a transthiolation reaction. Incubation of the UBE1 and UBE2R2 enzymes in the presence of ubiquitin and ATP at 30°C was compared at two time points, T₀ and T₁₀ minutes. Sensitivity of the ubiquitin/UBE2R2 thioester bond to the reducing agent DTT was confirmed.



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Lot-specific COA version tracker: v1.0.0