UBE2R2 (CDC34B) [untagged]

E2 – Ubiquitin Conjugating Enzyme

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

Cat. No.	**62-0098-020**	Quantity:	20 µg
Lot. No.	**30194**	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: 20 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

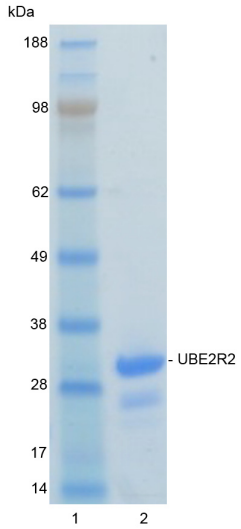
Protein Sequence:

GSHMASMTGGQQMGRGS***M***AQQQMTSSQKALM
LELKSLQEEPVEGFRITLVDESDLYNWEVAIF
GPPNTLYEGGYFKAHIKFPIDYPYSPPT
FRFLTKMWHPNIYENGDVCISILHPPVDDPQS
GELPSERWNPTQNVRTILLSVISLLNEPNTF
SPANVDASVMFRKWRDSKGKDKEYAEI
IRKQVSATKAEAEKDGVKVPTTLAEYCIKT
KVPSNDNSSDLLYDDLYDDDIDDEDEEEEDAD
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, T_0 and T_{10} 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