

UBC3 Antibody

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H M R	Endogenous	32	Rabbit	#Q712K3, #P49427	54926, 997

Product Usage Information**Application**

Western Blotting

Dilution

1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

Specificity/Sensitivity

UBC3 Antibody detects endogenous levels of total UBC3 and UBC3B protein.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to the sequence of human UBC3. Antibodies are purified by protein A and peptide affinity chromatography.

Background

Ubiquitin can be covalently linked to many cellular proteins by the ubiquitination process, which targets proteins for degradation by the 26S proteasome. Three components are involved in the target protein-ubiquitin conjugation process. Ubiquitin is first activated by forming a thioester complex with the activation component E1; the activated ubiquitin is subsequently transferred to the ubiquitin-carrier protein E2, and then from E2 to ubiquitin ligase E3 for final delivery to the epsilon-NH₂ of the target protein lysine residue (1-3). Combinatorial interactions of different E2 and E3 proteins result in substrate specificity (4). Recent data suggest that activated E2 associates transiently with E3, and that the dissociation is a critical step for ubiquitination (5). UBC3, the mammalian orthologue of yeast Cdc34, and UBC3B, a UBC3 family member, are E2 ubiquitin-carrier proteins. These proteins contain a conserved core domain containing a cysteine residue, which forms the thioester bond with ubiquitin (6). UBC3 in concert with the SCF5kp2 (Skp1, Cullin and F-box protein/Skp2) complex mediates cell cycle progression from G1 to S phase by targeting the CDK inhibitor p27 for proteolysis (7). UBC3B in concert with the SCFb-Trcp (Skp1, Cullin and F-box protein/b-Trcp) complex mediates degradation of b-catenin (6).

Background References

1. Ciechanover, A. (1998) *EMBO J.* 17, 7151-7160.
2. Hochstrasser, M. (2000) *Nat. Cell Biol.* 2, E153-E157.
3. Hochstrasser, M. (2000) *Science* 289, 563-564.
4. DeSalle, L.M. and Pagano, M. (2001) *FEBS Lett.* 490, 179-189.
5. Deffenbaugh, A. E. et al. (2003) *Cell* 114, 611-622.
6. Semplici, F. et al. (2002) *Oncogene* 21, 3978-3987.
7. Pagano, M. et al. (1995) *Science* 269, 682-685.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat

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