Rabbit pAb to Ubiquitin RPCA-Ubi

Applications	Host	Isotype	Molecular Wt.	Species Cross-Reactivity
Western blot, ICC/IF, IHC	**Rabbit**	**IgG**	**8.5kDa**	**Hu, Rt, Ms**

Ordering Information
Web www.encorbio.com
Email admin@encorbio.com
Phone 352-372-7022
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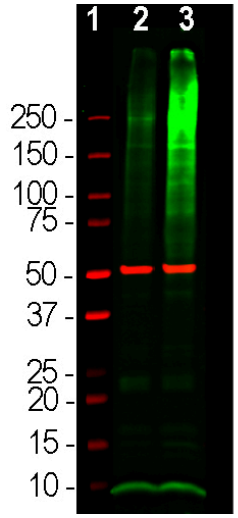
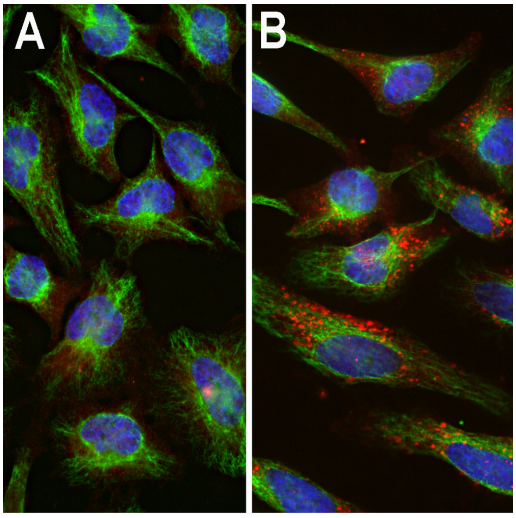
HGNC name: UBB, UBC
RRID: AB_2253901
Immunogen: Purified ubiquitin conjugated with glutaraldehyde to KLH
Format: Serum with 5mM NaN_3
Storage: Shipped on ice, storage at 4°C recommended. For longer term storage make 50% wrt glycerol and put at -20°C
Recommended dilutions:
Western blot: 1:5,000-1:10,000.
IF/ICC and IHC: 1:500-1:1,000.



Western blot analysis of HEK293 cell lysates using rabbit pAb to ubiquitin, RPCA-Ubi, dilution 1:5,000 in green and mouse mAb to β-Tubulin, MCA-1B12, dilution 1:10,000, in red, used as a loading control. [1] protein standard (red), [2] cells maintained in normal medium, [3] cells treated with proteasome inhibitor lactacystin (Lc) at 10μM for 16 hours. Lysed cells were lysed and the lysate subjected to electrophoresis on a 4-20% SDS-PAGE gel, then electrophoretically transferred to PVDF membranes. The smear detected above the 200kDa standard represents accumulations of ubiquitinated proteins in the Lc treated cells. The prominent band at ~8kDa corresponds to monoubiquitin.



Immunofluorescent analysis of HeLa cells stained with rabbit pAb to ubiquitin, RPCA-Ubi, dilution 1:1,000 in red, and costained with chicken pAb to vimentin, CPCA-Vim, dilution 1:10,000, in green. The blue is DAPI staining of nuclear DNA. [A] Control HeLa cells maintained in normal medium, [B] HeLa cells treated with 10μM of the proteasome inhibitor lactacystin (Lc) for 24 hours. Proteasomal inhibition leads to formation of strongly ubiquitin positive cytoplasmic inclusions. Note the diffuse cytoplasmic ubiquitin staining in control cells and well defined ubiquitin positive inclusions in the Lc treated cells.

Background: Ubiquitin is a highly conserved globular 76 amino acid protein of about 8.5 kDa molecular weight. It has a important role in the targeting of proteins for proteolytic degradation. Proteins to be degraded are covalently coupled to the C-terminus of ubiquitin by means of ubiquitin ligases. The ubiquitin itself is frequently also ubiquitinated, producing a polyubiquitin chain. The polyubquitinated complex is then recognized by a complex of degradative enzymes which together form the proteosome. Interestingly, ubiquitin also becomes covalently bonded to many types of pathological inclusions seen in serious human disease states which appear to be resistant to normal degradation, so that ubiquitin antibodies are very useful for studies of these inclusions. For example, the neurofibrillary tangles and paired helical filaments diagnostic of Alzheimer's disease, the Lewy bodies seen in Parkinson's disease, and Pick bodies found in Pick's disease are all heavily ubiquitinated and can all be readily visualized with ubiquitin antibodies of appropriate specificity. Ubiquitin antibodies have become very widely used for such studies.

References:

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Abbreviation Key:
mAb—Monoclonal Antibody **pAb**—Polyclonal Antibody **WB**—Western Blot **IF**—Immunofluorescence **ICC**—Immunocytochemistry **IHC**—Immunohistochemistry **E**—ELISA **Hu**—Human **Mo**—Monkey **Do**—Dog **Rt**—Rat **Ms**—Mouse **Bo**—Cow **Po**—Pig **Ho**—Horse **Ch**—Chicken **Dr**—*D. rerio* **Dm**—*D. melanogaster* **Ce**—*C. elegans* **Sc**—*S. cerevisiae* **Sa**—*S. aureus* **Ec**—*E. coli.*