

HRP anti-Ubiquitin Antibody

Catalog# / Size	838705 / 25 µg 838706 / 100 µg
Clone	P4G7
Regulatory Status	RUO
Other Names	Polyubiquitin-C, Polyubiquitin B, RPS 27A, RPS27A, UBA 52, UBA 80, UBA52, UBA80, UBB, UBC, UBCEP 1, UBCEP 2, UBCEP1, UBCEP2, Ubiquitin, ubiquitin B
Isotype	Mouse IgG1, κ
Description	<p>Ubiquitin is a small (8.5 kD) regulatory protein that is ubiquitously expressed in tissues of eukaryotic organisms. There are four genes in the human genome that produce ubiquitin; UBB, UBC, UBA52 and RPS27A. UBA52 and RPS27A genes code for a single copy of ubiquitin fused to the ribosomal proteins L40 and S27a, respectively. The UBB and UBC genes code for polyubiquitin precursor proteins.</p> <p>Ubiquitination is a post-translational modification where a ubiquitin subunit is attached to a protein. Addition of ubiquitin can signal for degradation via the proteasome, alter cellular location, promote or prevent protein interactions, or affect activity. Ubiquitination is carried out stepwise by ubiquitin-activating enzymes (E1s), ubiquitin-conjugating enzymes (E2s), and ubiquitin ligases (E3s), respectively. The cascade results in the binding of ubiquitin to lysine residues on the protein substrate via an isopeptide bond, cysteine residues through a thioester bond, serine and threonine residues through an ester bond, or the amino group of the protein's N-terminus via a peptide bond.</p> <p>Proteins can be modified either by a single ubiquitin unit (monoubiquitination) or a chain of ubiquitin molecules (polyubiquitination). Proteins destined for degradation by the proteasome are usually ubiquitinated on lysine residues K48 and K29, while other polyubiquitinations (e.g. on K63, K11, K6) and monoubiquitinations may regulate processes such as endocytic trafficking, inflammation, translation and DNA repair.</p> <p>A frameshift mutation in ubiquitin B can result in a truncated peptide missing the C-terminal glycine. This abnormal peptide, known as UBB+1, has been shown to accumulate selectively in Alzheimer's disease and other tauopathies.</p>

Product Details

Verified Reactivity	Human, Mouse, Rat, Drosophila
Antibody Type	Monoclonal
Host Species	Mouse
Immunogen	Clone P4G7 was raised against denatured bovine ubiquitin and recognizes ubiquitin, polyubiquitin, and ubiquitin-conjugated proteins.
Formulation	This antibody is provided in 50% glycerol in aqueous buffered solutions with preservatives.
Preparation	The antibody was purified by affinity chromatography and conjugated with HRP under optimal conditions.
Concentration	0.5 mg/ml
Storage & Handling	Upon receipt, the antibody solution should be stored undiluted at -20°C, and protected from prolonged exposure to light.
Application	WB - Quality tested IHC-P - Verified
Recommended Usage	Each lot of this antibody is quality control tested by Western blotting . For Western blotting, the suggested use of this reagent is 2.5 - 10 µg per ml. For immunohistochemistry on formalin-fixed paraffin-embedded tissue, a concentration range of 2.5 - 5.0 µg/ml is suggested. It is recommended that the reagent be titrated for optimal performance for each application.

Application Notes	P4G7 is equivalent to MAb P4D1. The ubiquitin protein is extremely well conserved and thus the antibody has extensive species cross-reactivity from yeast to human. This antibody was specifically developed to detect ubiquitin and ubiquitin-substrate conjugates by immunoblotting.
Application References	1. Duttler S, <i>et al.</i> 2013. <i>Mol. Cell.</i> 3:379. (WB) PubMed
(PubMed link indicates BioLegend citation)	2. Wu Y, <i>et al.</i> 2007. <i>Mol. Cell. Biol.</i> 18:6407. (WB) PubMed
RRID	AB_2801179 (BioLegend Cat. No. 838705) AB_2801180 (BioLegend Cat. No. 838706)

Antigen Details

Structure	Ubiquitin is a 76 amino acid protein with a molecular mass of 8.5 kD.
Distribution	Found in almost all tissues of eukaryotic organisms
Function	Regulatory protein
Biology Area	Cell Biology, Neurodegeneration, Neuroscience, Neuroscience Cell Markers, Protein Trafficking and Clearance, Signal Transduction
Molecular Family	Autophagosome Markers
Antigen References	1. Hatanaka H, <i>et al.</i> 2009. <i>J. Biol. Chem.</i> 23:15448. (WB) PubMed 2. Sarkari F, <i>et al.</i> 2013. <i>J. Biol. Chem.</i> 23:16975. (WB) PubMed
Gene ID	7316

Related Protocols

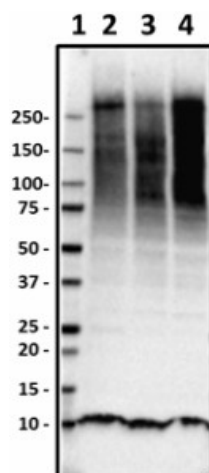
[Western Blotting Protocol](#)

[Immunohistochemistry Protocol for Paraffin-Embedded Sections](#)

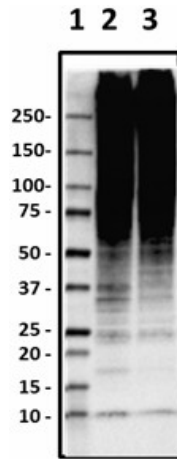
Other Formats

Purified anti-Ubiquitin, HRP anti-Ubiquitin, Biotin anti-Ubiquitin, Alexa Fluor® 647 anti-Ubiquitin, Alexa Fluor® 488 anti-Ubiquitin

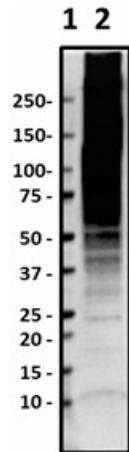
Product Data



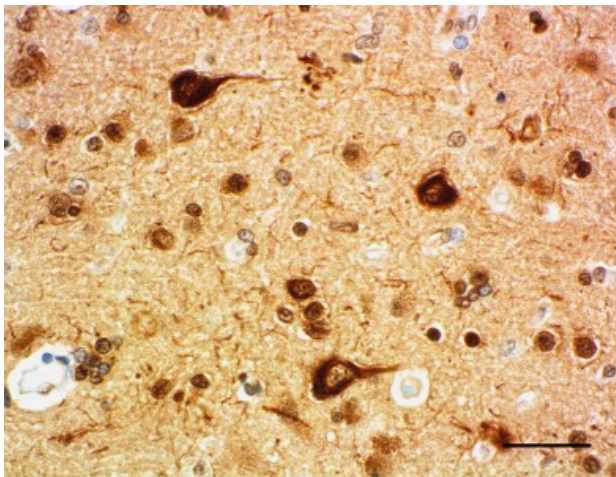
Western blot of HRP anti-Ubiquitin antibody (clone P4G7). Lane 1: Molecular weight marker; Lane 2: 30 µg of human brain lysate; Lane 3: 30 µg of mouse brain lysate; Lane 4: 30 µg of rat brain lysate. The blot was incubated with 2.5 µg/mL of the primary antibody overnight at 4°C. Enhanced chemiluminescence was used as the detection system (Cat. No. 426303).



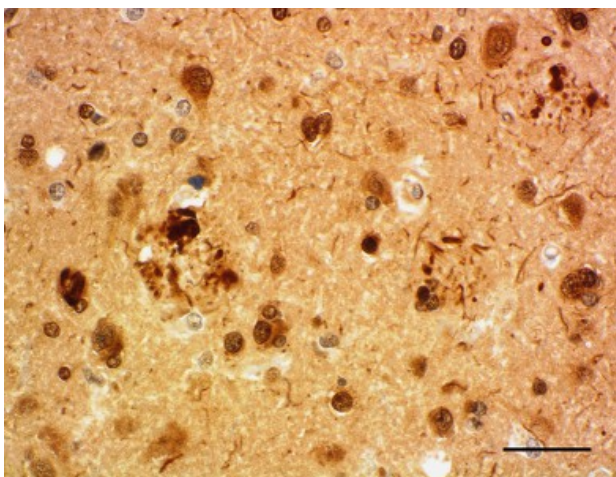
Western blot of HRP anti-Ubiquitin antibody (clone P4G7). Lane 1: Molecular weight marker; Lane 2: 20 μ g of HepG2 cell lysate; Lane 3: 20 μ g of NIH3T3 cell lysate. The blot was incubated with 5 μ g/mL of the primary antibody overnight at 4°C. Enhanced chemiluminescence was used as the detection system (Cat. No. 426303).



Western blot of HRP anti-Ubiquitin antibody (clone P4G7). Lane 1: Molecular weight marker; Lane 2: Drosophila head lysate (1 head). The blot was incubated with 10 μ g/mL of the primary antibody overnight at 4°C. Enhanced chemiluminescence was used as the detection system (Cat. No. 426303).



IHC staining of HRP anti-Ubiquitin antibody (clone P4G7) on formalin-fixed paraffin-embedded AD brain tissue. Following antigen retrieval using Sodium Citrate H.I.E.R, the tissue was incubated with 5 μ g/ml of the primary antibody overnight at 4°C. DAB was used for detection followed by hematoxylin counterstaining, according to the protocol provided. The image was captured with a 40X objective. Scale bar: 50 μ m



IHC staining of HRP anti-Ubiquitin antibody (clone P4G7) on formalin-fixed paraffin-embedded AD brain tissue. Following antigen retrieval using Sodium Citrate H.I.E.R, the tissue was incubated with 5 μ g/ml of the primary antibody overnight at 4°C. DAB was used for detection followed by hematoxylin counterstaining, according to the protocol provided. The image was captured with a 40X objective. Scale bar: 50 μ m

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