

ARG20561 anti-Ubiquitin antibody [6C11-B3] (HRP)

Package: 100 µg

Store at: -20°C

Summary

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|---------------------|---|
| Product Description | HRP-conjugated Mouse Monoclonal antibody [6C11-B3] recognizes Ubiquitin |
| Tested Reactivity | Hu, Ms, Rat, Bov |
| Tested Application | ELISA, ICC/IF |
| Specificity | This antibody recognizes ~10kDa corresponding to free ubiquitin |
| Host | Mouse |
| Clonality | Monoclonal |
| Clone | 6C11-B3 |
| Isotype | IgG2a, kappa |
| Target Name | Ubiquitin |
| Species | Bovine |
| Immunogen | KLH-conjugated Bovine ubiquitin (NP_776558.1) |
| Conjugation | HRP |
| Alternate Names | Polyubiquitin-B |

Application Instructions

| Application table | Application | Dilution |
|-------------------|--|-----------------|
| | ELISA | Assay-dependent |
| | ICC/IF | 1:100 |
| Application Note | * The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist. | |

Properties

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| Form | Liquid |
| Purification | Purification with Protein G. |
| Buffer | PBS (pH 7.4), 50% Glycerol and 0.09% Sodium azide |
| Preservative | 0.09% Sodium azide |
| Stabilizer | 50% Glycerol |
| Concentration | 1 mg/ml |
| Storage instruction | For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C. Storage in frost free freezers is not recommended. Keep the antibody in the dark and keep protected from prolonged exposure to light. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use. |

Bioinformation

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|-----------------------|--|
| Gene Symbol | UBB |
| Gene Full Name | ubiquitin B |
| Background | Ubiquitin is a small protein that occurs in all eukaryotic cells. The ubiquitin protein itself consists of 76 amino acids and has a molecular mass of about 8.5kDa. Key features include its C-terminal tail and the 7 Lys residues. It is highly conserved among eukaryotic species: Human and yeast ubiquitin share 96% sequence identity. The main function of Ubiquitin is to clear abnormal, foreign and improperly folded proteins by targeting them for degradation by the 26S proteasome. Ubiquitination represents an essential cellular process affected by a multi-enzyme cascade involving classes of enzymes known as ubiquitin-activating enzymes (E1s), ubiquitin-conjugating enzymes (E2s or Ubcs) and ubiquitin-protein ligases (E3s). Ubiquitin is activated in a two-step reaction by an E1 ubiquitin-activating enzyme in a process requiring ATP as an energy source. The initial step involves production of an ubiquitin-adenylate intermediate. The second step transfers ubiquitin to the E1 active site cysteine residue, with release of AMP. This step results in a thioester linkage between the C-terminal carboxyl group of ubiquitin and the E1 cysteine sulfhydryl group. The third step is a transfer of ubiquitin from E1 to the active site cysteine of a ubiquitin-conjugating enzyme E2 via a trans(thio)esterification reaction. And the final step of the ubiquitylation cascade creates an isopeptide bond between a lysine of the target protein and the C-terminal glycine of ubiquitin. In general, this step requires the activity of one of the hundreds of E3 ubiquitin-protein ligases (often termed simply ubiquitin ligase). E3 enzymes function as the substrate recognition modules of the system and are capable of interaction with both E2 and substrate. Ubiquitination also participates in the internalization and degradation of plasma membrane proteins such as some of the TCR subunits while still ER-membrane associated. Ubiquitin also plays a role in regulating signal transduction cascades through the elimination inhibitory proteins, such as I κ B α and p27. |
| Function | Ubiquitin: Exists either covalently attached to another protein, or free (unanchored). When covalently bound, it is conjugated to target proteins via an isopeptide bond either as a monomer (monoubiquitin), a polymer linked via different Lys residues of the ubiquitin (polyubiquitin chains) or a linear polymer linked via the initiator Met of the ubiquitin (linear polyubiquitin chains). Polyubiquitin chains, when attached to a target protein, have different functions depending on the Lys residue of the ubiquitin that is linked: Lys-6-linked may be involved in DNA repair; Lys-11-linked is involved in ERAD (endoplasmic reticulum-associated degradation) and in cell-cycle regulation; Lys-29-linked is involved in lysosomal degradation; Lys-33-linked is involved in kinase modification; Lys-48-linked is involved in protein degradation via the proteasome; Lys-63-linked is involved in endocytosis, DNA-damage responses as well as in signaling processes leading to activation of the transcription factor NF-kappa-B. Linear polymer chains formed via attachment by the initiator Met lead to cell signaling. Ubiquitin is usually conjugated to Lys residues of target proteins, however, in rare cases, conjugation to Cys or Ser residues has been observed. When polyubiquitin is free (unanchored-polyubiquitin), it also has distinct roles, such as in activation of protein kinases, and in signaling. [UniProt] |
| Research Area | Cell Biology and Cellular Response antibody; Gene Regulation antibody; Neuroscience antibody |
| Calculated Mw | 26 kDa |
| PTM | Ubiquitin: Phosphorylated at Ser-65 by PINK1 during mitophagy. Phosphorylated ubiquitin specifically binds and activates parkin (PRKN), triggering mitophagy (PubMed:24660806, PubMed:24751536, PubMed:24784582, PubMed:25527291). Phosphorylation does not affect E1-mediated E2 charging of ubiquitin but affects discharging of E2 enzymes to form polyubiquitin chains. It also affects deubiquitination by deubiquitinase enzymes such as USP30 (PubMed:25527291). |
| Cellular Localization | Cell Membrane, Cytoplasmic and Nuclear |