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Branched Ubiquitin Antibody Sampler Kit



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1 Kit (3 x 20 microliters)

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

Product Includes	Product #	Quantity	Mol. Wt	Isotype/Source
Ubiquitin (P4D1) Mouse mAb	3936	20 µl		Mouse IgG1
K63-linkage Specific Polyubiquitin (D7A11) Rabbit mAb	5621	20 µl		Rabbit IgG
K48-linkage Specific Polyubiquitin (D9D5) Rabbit mAb	8081	20 µl		Rabbit IgG
Anti-rabbit IgG, HRP-linked Antibody	7074	100 µl		Goat
Anti-mouse IgG, HRP-linked Antibody	7076	100 µl		Horse

Please visit cellsignal.com for individual component applications, species cross-reactivity, dilutions, protocols, and additional product information.

Description

Branched Ubiquitin Antibody Sampler Kit provides an economical means of detecting total and common branch specific forms of ubiquitin. The kit includes enough antibody to perform two western blot experiments with each primary antibody.

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

Background

Ubiquitin is a conserved polypeptide unit that plays an important role in the ubiquitin-proteasome pathway. 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 thiolester complex with the activation component E1; the activated ubiquitin is subsequently transferred to the ubiquitin-carrier protein E2, then from E2 to ubiquitin ligase E3 for final delivery to the epsilon-NH₂ of the target protein lysine residue (1-3). The ubiquitin-proteasome pathway has been implicated in a wide range of normal biological processes and in disease-related abnormalities. Several proteins such as IκB, p53, cdc25A, and Bcl-2 have been shown to be targets for the ubiquitin-proteasome process as part of regulation of cell cycle progression, differentiation, cell stress response, and apoptosis (4-7).

Substrate proteins are linked to ubiquitin using seven distinct ubiquitin lysine residues (Lys6, Lys11, Lys27, Lys29, Lys33, Lys48 and Lys63). Formation of a polyubiquitin chain occurs when a lysine residue of ubiquitin is linked to the carboxy-terminal glycine of another ubiquitin. Proteins polyubiquitinated at specific lysine residues display a tendency to be targeted for different processes; K48-linked polyubiquitin chains mainly target proteins for proteasomal degradation while K63-linked polyubiquitin regulates protein function, subcellular localization, or protein-protein interactions (8). K63-linked polyubiquitin chains exert nonproteolytic functions in vivo, such as protein trafficking, kinase/phosphatase activation, and DNA damage control, all of which might be important in regulation of cancer survival and development (9,10).

Background References

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