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MATERIAL DATA SHEET

Recombinant Human Di−Ubiquitin/Ub2 Non-hydrolyzable (K48), Agarose
Cat. # UCN-202

With a predicted molecular weight of 17 kDa, Di-Ubiquitin is composed of two Ubiquitin monomers that are covalently linked through an isopeptide bond, which typically form between a lysine residue of one Ubiquitin molecule and the C-terminal glycine residue of another Ubiquitin molecule (1). Each human Ubiquitin monomer is 76 amino acids (aa) in length and shares 96% and 100% aa identity with yeast and mouse Ubiquitin, respectively (2). Ubiquitin has seven lysine residues that can participate in the formation of poly-Ubiquitin chains. The specific lysine residue used in Ubiquitin conjugation is thought to determine the function of poly-ubiquitination in cellular processes such as protein degradation, signaling, and trafficking (3-8).

Linkage specific, non-hydrolyzable di-Ubiquitin is resistant to the activity of deubiquitinating enzymes (DUB's) that cleave the isopeptide linkage between adjacent Ubiquitin molecules. It can be used to investigate binding interactions between di-Ubiquitin and proteins that contain elements such as Ubiquitin-associated domains (UBA's) or Ubiquitin-interacting motifs (UIM's). This product may also be useful in exploring the role of unanchored poly-Ubiquitin chains in some signaling pathways.

Product Information	
Quantity:	250 µl
Source:	*E. coli*-derived Accession # P0CG47 Each Ubiquitin contains a Pro substitution at position 73.
Stock:	100 µl of agarose supplied in a 200 µl total volume of 20% Ethanol.

Use & Storage	
Use:	K48-linked Di-Ub (Ub2) Non-Hydrolyzable Chain Agarose is useful for the enrichment of known Ubiquitin chain-interacting proteins as well as the discovery of novel Ubiquitin chain-interacting proteins. We recommend equilibrating the resin by washing with 10 volumes of your desired aqueous buffer.
Storage:	**Do not freeze.** • 3 months from date of receipt, 2 to 8 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after opening.

Literature

References:

1. Scheffner, M. *et al*. (1995) Nature **373**:81.
2. Sharp, P.M. & W.-H. Li (1987) Trends Ecol. Evol. **2**:328.
3. Behrends, C. & J.W. Harper (2011) Nat. Struct. Mol. Biol. **18**:520.
4. Greene, W. *et al*. (2012) PLoS Pathog. **8**:e1002703.
5. Henry, A.G. *et al*. (2012) Dev. Cell **23**:519.
6. Tong, X. *et al*. (2012) J. Biol. Chem. **287**:25280.
7. Wei, W. *et al*. (2004) Nature **428**:194.
8. Zhang, J. *et al*. (2012) J. Biol. Chem. **287**:28646.

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