
MATERIAL DATA SHEET

Recombinant Human Tetra-Ubiquitin/Ub4 Non-hydrolyzable (K48), Agarose Cat. # UCN-212

With a predicted molecular weight of 34 kDa, Tetra-Ubiquitin chains are composed of four Ubiquitin monomers that are covalently linked through isopeptide bonds, 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). Seven of the 76 aa in Ubiquitin are lysine residues that can participate in poly-Ubiquitin chain formation. Linkage through specific lysine residues is thought to serve as a signal that affects protein degradation, signaling, trafficking, and other cellular processes (3-8).

Linkage specific, non-hydrolyzable tetra-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 Ubiquitin chains and proteins that contain elements such as Ubiquitin-associated domains (UBAs) or Ubiquitin-interacting motifs (UIMs). Tetra-Ubiquitin is the minimal unit necessary for recognition by the 26S Proteasome and contains structural characteristics (such as repeating hydrophobic patches) not present in di-Ubiquitin. This product may also be useful in exploring the role of unanchored poly-Ubiquitin chains in some signaling pathways.

Product Information

Quantity:	100 µl
MW:	34 kDa
Source:	<i>E. coli</i> -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 Tetra-Ub (Ub4) 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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