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MATERIAL DATA SHEET

Recombinant Human Poly-Ubiquitin Wild-type Chains (2-7) (K48), Biotin
Cat. # UCB-230

Poly-Ubiquitin chains are composed of 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).

This mixture of poly-Ubiquitin chains contains di-Ubiquitin and higher MW species; mono-Ubiquitin has been removed. These chains have been modified with biotin via primary amine coupling. This results in multiple biotinylated species modified at the N-terminus, as well as lysine residues. Biotinylated Ubiquitin can be detected using avidin-linked reagents.

Product Information	
Quantity:	50 µg
MW:	17* kDa (Ub2), 26* kDa (Ub3), 34* kDa (Ub4), 43* kDa (Ub5), 52* kDa (Ub6), and 60* kDa (Ub7) *unlabeled molecules, extent of labeling varies slightly by lot
Source:	*E. coli*-derived Accession # P0CG47
Stock:	Lyophilized from a solution in HEPES.
Solubility:	Reconstitute at 5 mg/mL in an aqueous solution.
Purity:	>95%, by SDS-PAGE under reducing conditions and visualized by Colloidal Coomassie® Blue stain.

Use & Storage

Use: Ubiquitin chains vary in length, linkage, and function. K48-linked Biotinylated Poly-Ubiquitin Chains (Ub2-7) are ideal for use in assays that utilize avidin-linked reagents for visualization or quantitation. Reaction conditions will need to be optimized for each specific application. IMPORTANT: Heating this product in SDS-PAGE buffer or terminating reactions containing this product with heated SDS-PAGE buffer could lead to unexpected, high apparent molecular weight banding or smearing on gels that is not representative of product purity. For optimal results, we recommend incubation in SDS-PAGE buffer + DTT at <40 °C for 20 minutes prior to gel electrophoresis.

Storage: **Use a manual defrost freezer and avoid repeated freeze-thaw cycles.**

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.

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.
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