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MATERIAL DATA SHEET

Recombinant Human Tetra-Ubiquitin Wild-type Chains (Ub-K48-Ub-K63-Ub-K48-Ub)

Cat. # UCM-310

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).

Tetra-Ub can be used to investigate mechanisms of binding and recognition by deubiquitinating enzymes, E3 ligases or other proteins that contain Ubiquitin-associated domains (UBAs) or Ubiquitin-interacting motifs (UIMs). Tetra-Ub is the minimal unit necessary for recognition by the 26S Proteasome and contains structural characteristic (such as repeating hydrophobic patches) not present in di-Ub. This product is made with wild-type human recombinant Ubiquitin and linkage-specific enzymes, which results in one K63-linkage between two K48-linkages.

Product Information	
Quantity:	25 µg
MW:	34 kDa
Source:	*E. coli*-derived human Tetra-Ubiquitin protein Accession # P0CG47
Stock:	Lyophilized from a solution in deionized water.
Purity:	>95%, by SDS-PAGE under reducing conditions and visualized by Colloidal Coomassie® Blue stain.

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Use & Storage

Use: Ubiquitin chains vary in length, linkage, and function.Tetra-Ubiquitin Chains (Ub-K48-Ub-K63-Ub-K48-Ub) are ideal for investigating Ubiquitin-binding proteins and as substrates for Ubiquitin-specific isopeptidases. 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.**

- 24 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.

Literature

References:

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