

DESCRIPTION

Source *E. coli*-derived human Tetra-Ubiquitin protein
Accession # P0CG47.1

Predicted Molecular Mass 34 kDa

SPECIFICATIONS

Activity 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.

Purity >98%, by SDS-PAGE under reducing conditions and visualized by Colloidal Coomassie® Blue stain.

Formulation Supplied as a solution in deionized water. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Shipping The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.

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

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

DATA

Mass Spectrometry

Ub-AQUA analysis:

K6 : 98.37%

K11: 0.77%

K63: 0.66%

All other linkages ≤ 0.07%

AQUApure Tetra-Ub Chains (K6-linked) Analysis The correctness of linkage and purity of AQUApure Tetra-Ub Chains (K6-linked) Protein (Catalog #UC-15) was assessed using the Absolute Quantitation of Ubiquitin method (Ub-AQUA), an LCMS-based technique that provides extremely accurate information on the composition of Poly-Ubiquitin samples.

BACKGROUND

Ubiquitin chains vary in length, linkage, and function. K6-linked Tetra-Ubiquitin Chains (Ub4) are ideal for investigating Ubiquitin-binding proteins and as substrates for Ubiquitin-specific isopeptidases. Linkage specific Poly-Ubiquitin chains may be used as a substrate for *in vitro* reactions with deubiquitinating enzymes ("DUB's") that cleave the peptide or isopeptide linkage between adjacent Ubiquitin molecules. Poly-Ubiquitin chains can also be used to investigate mechanisms of binding and recognition between the chains and other proteins that contain Ubiquitin-Associated domains (UBAs), Ubiquitin-interacting motifs (UIMs), ZnF's and/or other Ubiquitin-sensing elements. K6-linked Tetra-Ubiquitin chains are manufactured using recombinant Ubiquitin and purely enzymatic techniques to avoid the potential for contaminating synthetic intermediates.

References:

1. Kirkpatrick D.S., *et al.* (2006) Nat. Cell Biol. **8**:700.
2. Ordureau, A., *et al.* (2014) Mol. Cell **56**:360.
3. Ordureau, A., *et al.* (2015) Proc. Nat. Acad. of Sci. USA **112**:6637.
4. Phu L., *et al.* (2011) Mol. Cell Proteomics **10**:M110.003756.