

Lot # XXXXX

## MATERIAL DATA SHEET

### Tri-Ub/Ub3 WT Chains (K11/K48 “branched”)

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. Phosphorylated 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.

K11/K48-branched Poly-Ubiquitin chains facilitate rapid substrate delivery to the proteasome, which prevents accumulation of aggregation-prone nascent proteins. Furthermore, enzymes and effectors of K11/K48-linked chains are encoded by essential genes and mutated across neurodegenerative diseases, providing proof that heterotypic ubiquitin chains play important roles in cellular signaling pathways.

The correctness of linkage and purity of each production lot of this product is 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. The product is also tested in a Western Blot application described by Yau, *et al.*

Product Information	
<b>Quantity:</b>	25 µg
<b>Stock:</b>	0.5 mg/ml (20 µM) in 10 mM HEPES pH 7.5 > 90% by SDS-PAGE under reducing conditions and visualized by Colloidal Coomassie Blue stain.
<b>Purity:</b>	<b>Ub-AQUA analysis:</b> K11 + K48: 98% All other linkages < 1%
<b>MW:</b>	26 kDa

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#### Use & Storage

<b>Use:</b>	Ubiquitin chains vary in length, linkage, and function. K11/K48-linked, “branched” Tri-Ubiquitin chains are ideal as a Western Blot control as described by Yau <i>et al.</i> in “Assembly and Function of Heterotypic Ubiquitin Chains in Cell-Cycle and Protein Quality Control”
<b>Storage:</b>	Store at –20°C. Avoid multiple freeze/thaw cycles.

#### Literature

**References:** Yau, R.G. *et al.* (2017) Cell: doi.org/10.1016/j.cell.2017.09.040

***For Laboratory Research Use Only, Not For Use in Humans***

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