

Background

Ubiquitin chains are essential components in the study of protein degradation pathways, trafficking, and cellular signaling. These polymeric chains of ubiquitin molecules critically regulate protein stability, localization, and activity. K63-linked chains traditionally function in intracellular signaling, trafficking, and autophagy.

Phospho-ubiquitin chains, a specialized class characterized by phosphorylation at serine 65, play a central role in mitophagy signaling pathways.

K63 tri-ubiquitin (phosphorylated) consists of three wild-type ubiquitin monomers linked via isopeptide bonds between lysine 63 and the C-terminal glycine. These chains are enzymatically phosphorylated at the Ser65 residue.

Application(s)

- Investigation of phosphoubiquitin chain specificity and selectivity
- Study of phosphoubiquitin chains in protein degradation pathways (e.g., proteasomal and autophagic degradation)
- Analysis of phosphoubiquitin-mediated signaling pathways and cellular responses
- Structural elucidation of the architecture and dynamics of phosphoubiquitin chains
- Screening assays to identify modulators of phosphoubiquitin chain assembly and disassembly

Product Specifications

Tag	None
Purity	≥ 95% by HPLC-MS
Molecular Weight	25,766-25,926 Da (depending on the degree of phosphorylation)
Quantity	25 µg
Species	Human
Expression System	<i>E. coli</i>
Physical State	Liquid
Buffer	50 mM Tris-HCl, pH 7.5, 150 mM NaCl
Solubility	> 1mg/mL
Storage	-80° C. Avoid repeated freeze/thaw cycles

References

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4. Liu P., et al., Sci Signal, 2018; 5;11(533)
5. Swatek, K.N. & Komander, D. Ubiquitin Modifications. Cell Res. 2016, 26, 399-422.
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