

K48-Linked Tri-Ubiquitin (Phosphorylated)

Cat. # SI4803P

Background:

Ubiquitin Chains are essential components in the study of protein degradation pathways, protein trafficking, and cellular signaling processes. These polymeric chains of ubiquitin molecules play critical roles in regulating protein stability, localization, and activity. K48 chains traditionally play a role in proteasomal degradation pathways. Phospho-ubiquitin chains represent a specialized class of polyubiquitin characterized by phosphorylation at Serine 65 and play a central role in mitophagy signaling pathways.

K48 Tri-Ubiquitin (phosphorylated) is a trimeric chain of wild-type ubiquitin, wherein ubiquitin monomers are linked together via an isopeptide bond between Lysine 48 and the C-terminal Glycine. The chains are then enzymatically phosphorylated at the Ser65 position.

Application:

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

Product Information

Purity:	≥ 95% by HPLC-MS
Molecular Weight:	25766-25926 Da
Physical State:	Liquid, 50 mM Tris, pH 7.5, 0.15 M NaCl
Quantity:	100 µg
Solubility:	>1 mg/mL
Storage:	-80° C. Avoid repeated freeze/thaw cycles

References

1. Ohtake, F. Branched Ubiquitin Code: From Basic Biology to Targeted Protein Degradation. *J. Biochem.* **2022**, *171*, 361-366.
2. Swatek, K.N. & Komander, D. Ubiquitin Modifications. *Cell Res.* **2016**, *26*, 399-422.
3. Yau, R. & Rape, M. The increasing complexity of the ubiquitin code. *Nature Cell. Bio.* **2016**, *18*, 579-586.

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Data

HPLC

Deconvoluted Mass Spectrum

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