

## K11-Linked Tri-Ubiquitin (Phosphorylated)

Cat. # SI1103P

### 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. K11-linked ubiquitination is traditionally associated with cell cycle regulation and proteasomal degradation. Phospho-ubiquitin chains represent a specialized class of polyubiquitin characterized by phosphorylation at Serine 65 and play a central role in mitophagy signaling pathways.

K11 Tri-Ubiquitin (phosphorylated) is a trimeric chain of wild-type ubiquitin, wherein ubiquitin monomers are enzymatically linked together via an isopeptide bond between Lysine 11 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

<b>Purity:</b>	≥ 95% by HPLC-MS
<b>Molecular Weight:</b>	25281-26361 Da
<b>Physical State:</b>	Liquid, 50 mM Tris, pH 7.5, 0.15 M NaCl
<b>Quantity:</b>	100 µg
<b>Solubility:</b>	>1 mg/mL
<b>Storage:</b>	-80° C. Avoid repeated freeze/thaw cycles

### References

1. Wickliffe, K.E.; Williamson, A.; Meyer, H-J.; Kelly, A.; Rape, M. K11-linked Ubiquitin Chains as Novel Regulators of Cell Division. *Trends Cell Biol.* **2011**, *21*, 656-663.
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. *Nat. Cell. Bio.* **2016**, *18*, 579-586.

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Data

HPLC

Deconvoluted Mass Spectrum

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