

## K33-Linked Di-Ubiquitin (Phosphorylated)

Cat. # SI3302P

### 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. K33-linked ubiquitination is traditionally associated with regulation of the innate immune response. These chain types are also involved in protein stabilization and other non-degradative processes. Phospho-ubiquitin chains represent a specialized class of polyubiquitin characterized by phosphorylation at Serine 65 and play a central role in mitophagy signaling pathways.

K33 Di-Ubiquitin (phosphorylated) is a dimeric chain of wild-type ubiquitin, wherein ubiquitin monomers are enzymatically linked together via an isopeptide bond between Lysine 33 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

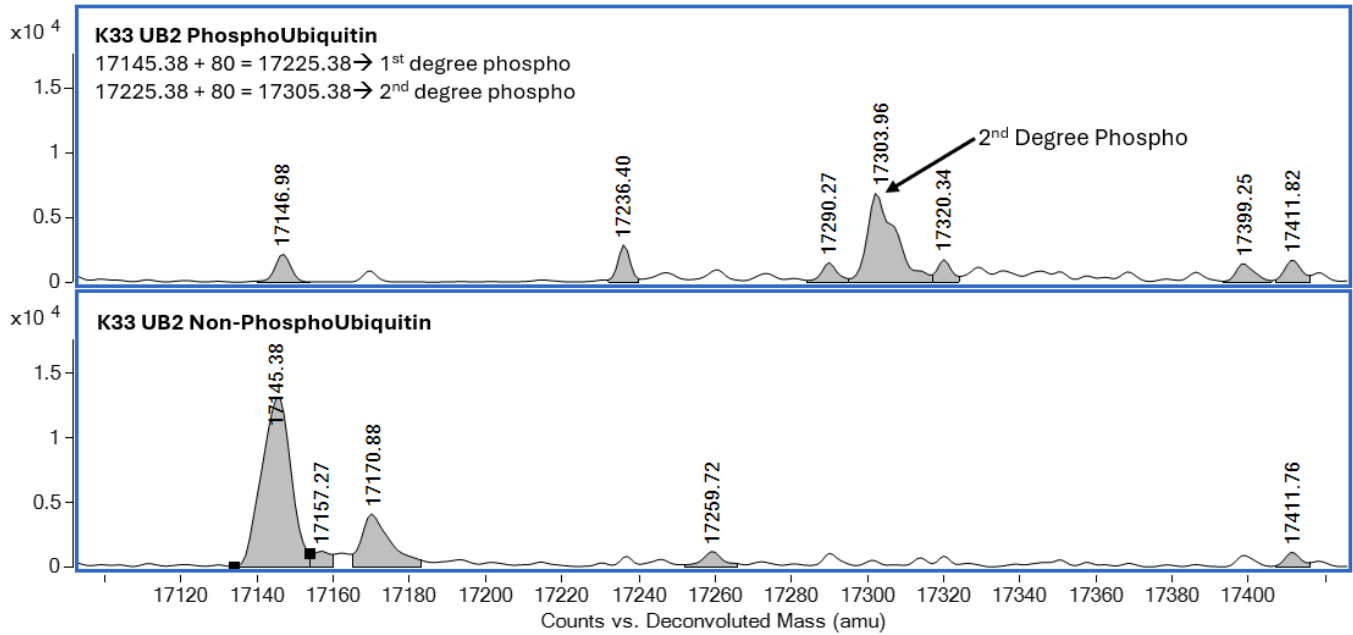
<b>Purity:</b>	≥ 95% by HPLC-MS
<b>Molecular Weight:</b>	17219-17299 Da
<b>Physical State:</b>	Liquid, 50 mM Tris, pH 7.5, 0.15 M NaCl
<b>Quantity:</b>	25 µg
<b>Solubility:</b>	>1 mg/mL
<b>Storage:</b>	-80° C. Avoid repeated freeze/thaw cycles

### References

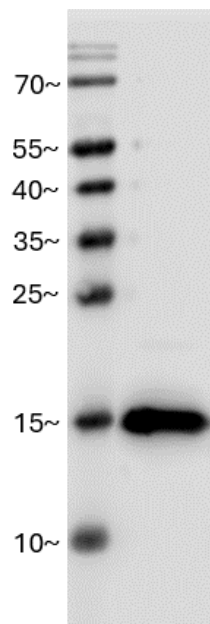
1. Van Huizen, M. & Kikkert, M. The Role of Atypical Ubiquitin Chains in the Regulation of Antiviral Innate Immune Response. *Front. Cell. Dev. Biol.* **2019**, 7, 392.
2. Swatek, K.N. & Komander, D. Ubiquitin Modifications. *Cell Res.* **2016**, 26, 399-422.
3. Yau, R. & Rape, M. The increasing complexity of the ubiquitin code. *Nature Cell. Bio.* **2016**, 18, 579-586.

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Data



Deconvoluted Mass Spectrum



Western Blot Analysis (100 ng)

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