Biotinylated K6-Linked Tetra-Ubiquitin (Phosphorylated)

Cat. # SI0604BP

Background:

Ubiquitin Chains are essential components in the study of protein degradation. In pathways, protein trafficking, and cellular signaling processes. These polymeric chains of ubiquitin molecules play critical roles in regulating protein stability, localization, and activity. K6-linked ubiquitination is traditionally associated with mitophagy and also a main contributor to the DNA damage 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.

K6 Tetra-Ubiquitin (phosphorylated) is a tetrameric chain of wild-type ubiquitin, wherein ubiquitin monomers are enzymatically linked together via an isopeptide bond between Lysine 6 and the C-terminal Glycine. The chains are then enzymatically phosphorylated at the Ser65 position.

Application:

- Biotinylated chains are meant to label the protein so they can be selectively separated via a multitude of methods such as Western Blotting, pull downs (see website), ELISAs, etc.
- Can use streptavidin or avidin to visualize this protein specifically.
- 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:	34842-35082 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. Swatek, K.N. & Komander, D. Ubiquitin Modifications. *Cell Res*. **2016**, *26*, 399-422.
2. Yau, R. & Rape, M. The increasing complexity of the ubiquitin code. *Nat. Cell. Bio*. **2016**, 18, 579-586.