

Biotinylated K11-Linked Tetra-Ubiquitin

Cat. # SI1104B

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. K11 linkage appears to play an important role in cell cycle signaling, as it is associated with the anaphase promoting complex (APC).

K11 Tetra-Ubiquitin is a tetrameric chain of wild-type ubiquitin, wherein ubiquitin monomers are enzymatically linked together via an isopeptide bond between Lysine 11 and the C-terminal Glycine. These tetra ubiquitin are then biotinylated on an available cysteine that was mutated in one of the ubiquitins to allow for one biotin molecule to be attached.

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

Product Information

Purity:	≥ 95% by HPLC-MS
Molecular Weight:	34759 Da
Physical State:	Liquid, 50 mM Tris, pH 7.5, 0.15 M NaCl
Quantity:	25 µg
Solubility:	>1 mg/mL
Storage:	-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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