

Anti-K63 TUBE, Biotin

Cat. # UM304

Background: Based on protein domains known to possess an affinity for ubiquitin, Tandem Ubiquitin Binding Entities (TUBEs) have been developed for the isolation and identification of ubiquitylated proteins. TUBEs display up to a 1000-fold increase in affinity for poly-ubiquitin moieties over the single ubiquitin binding associated domain (UBA). In addition, TUBEs display a protective effect on polyubiquitylated proteins, allowing detection at relatively low abundance. TUBEs effectively "capture" proteins in their polyubiquitylated state [1-3].

TUBEs capitalize on the linkage of multiple ubiquitin interacting motifs (UIMs) to generate reagents with high affinity for polyubiquitin. Biotin K63-TUBE 1 binds K63-linked polyubiquitin with a 1000 to 10,000-fold preference for K63 over other linkage types and provides a sensitive and cost-effective tool for determining the abundance of K63-linked polyubiquitin in the cell, or identifying the linkage-type associated with a particular protein of interest. Based on an engineered peptide developed by Sims et al., Biotin K63-TUBE 1 consists of multiple ubiquitin interacting motifs separated by rigid linkers, presumably increasing its affinity to extended K63 polyubiquitin chains. Biotin K63-TUBE is useful for detection and characterization of K63-linked polyubiquitylated proteins by Far Western blotting, affinity purification from lysates and biological fluids, and in situ detection.

Application:

- Detection of K63-linked polyubiquitylated proteins by ligand (far Western) blotting
- Identification of the polyubiquitin linkage-type of your protein of interest
- Inhibition of K63-dependent processes in lysates
- Purification of K63-linked polyubiquitylated proteins from cell and tissue lysates using avidin supports
- *In situ* labeling for detection of K63-linked polyubiquitylated proteins by histochemistry

Product Information

Affinity tag:	Biotin (1-2 per molecule)
Purity:	≥ 90% by SDS-PAGE
Molecular Weight:	10320 Da (average)
Physical State:	liquid
Quantity:	50 µg
Solubility:	>30 mg/mL
Storage:	-80° C. Avoid repeated freeze/thaw cycles

References

1. Altun, M., H.B. Kramer, L.I. Willems, J.L. McDermott, C.A. Leach, S.J. Goldenberg, K.G. Kumar, R. Konietzny, R. Fischer, E. Kogan, M.M. Mackeen, J. McGouran, S.V. Khoronenkova, J.L. Parsons, G.L. Dianov, B. Nicholson, and B.M. Kessler, *Activity-based chemical proteomics accelerates inhibitor development for deubiquitylating enzymes*. Chem Biol, 2011. **18**(11): p. 1401-12.
2. Hjerpe, R., F. Aillet, F. Lopitz-Otsoa, V. Lang, P. England, and M.S. Rodrigues, *Efficient protection and isolation of ubiquitylated proteins using tandem ubiquitin-binding entities*. EMBO Rep, 2009. **10**: p. 1250-1258.
3. Aillet, F., F. Lopitz-Otsoa, R. Hjerpe, M. Torres-Ramos, V. Lang, and M.S. Rodriguez, *Isolation of ubiquitylated proteins using tandem ubiquitin-binding entities*. Meth Mol Biol, 2012. **832**: p. 173-183.

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