

## K63 TUBE (FLAG)

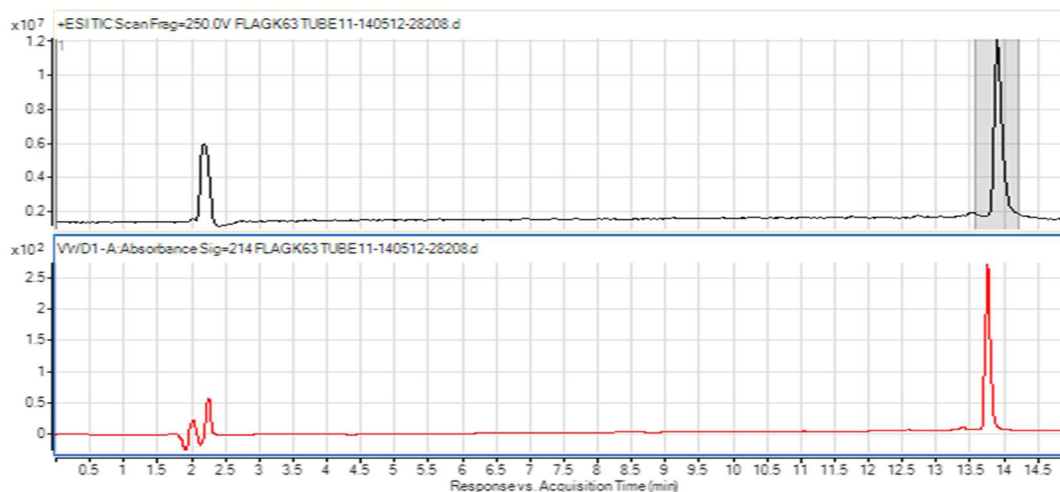
Cat. # UM604

**Background:** FLAG® K63 TUBE is an ideal reagent for efficient isolation and enrichment of K63-polyubiquitinated proteins from cell and tissue extracts or in vitro synthesized mixtures. FLAG® K63 TUBE consists of multiple ubiquitin interaction motifs (UIMs) joined by a rigid, helical linker that spaces the UIMs for selective binding to extended K63-linked polyubiquitin chains. The result is a peptide that exhibits high affinity binding to K63-linked polyubiquitin together with 1000 to 10,000-fold selectivity over K48- and K11- linkages. Expression of this peptide in vivo inhibits K63-linked polyubiquitin-dependent processes and protects K63-linked polyubiquitin chains from degradation. Combining this peptide with a FLAG epitope tag generates, for the first time, a powerful affinity reagent suitable for isolation, purification and characterization of proteins modified by K63-linked polyubiquitin. Flag K63-TUBE allows isolation of K63-linked polyubiquitin without the need for overexpression of ubiquitin mutants, tagged ubiquitins or the inclusion of DUB inhibitors any of which could alter cellular physiology. (FLAG is a registered trademark of Sigma-Aldrich Corporation LLC).

- Application:**
- "Far Western" blot analysis
  - Mass Spectroscopy

### Product Information

<b>Purity:</b>	≥ 95% by RP-HPLC
<b>Molecular Weight:</b>	9062.7 Da
<b>Physical State:</b>	Liquid
<b>Quantity:</b>	50 µg
<b>Buffer:</b>	PBS, pH 7.2
<b>Storage:</b>	-80° C. Avoid repeated freeze/thaw cycles



### References

1. Hershko, A., and Ciechanover, A. (1998) The ubiquitin-proteasome pathway, *Ann Rev Biochem* 67, 425-479.
2. Messick, T. E., and Greenberg, R. A. (2009) The ubiquitin landscape at DNA double-strand breaks, *J Cell Biol* 187, 319-326.

All products are for research use only • not intended for human or animal diagnostic or therapeutic uses

Copyright © 2009 LifeSensors, Inc. All Rights Reserved

3. Balut, C. M., Loch, C. M., and Devor, D. C. (2011) Role of ubiquitylation and USP8-dependent deubiquitylation in the endocytosis and lysosomal targeting of plasma membrane KCa3.1, *FASEB J* 25, 3938-3948.
4. Piper, R. C., and Lehner, P. (2011) Endosomal transportation via ubiquitination, *Trends Cell Biol* 21, 647-655.
5. Olzman, J. A., and Chin, L. S. (2008) Parkin-mediated K63-linked polyubiquitination. A signal for targeting misfolded proteins to the aggresome-autophagy pathway, *Autophagy* 4, 85-87.
6. Tan, Y. K., Vu, H. A., Kusuma, C. M., and Wu, A. (2009) Implications of autophagy in anthrax pathogenicity, *Autophagy* 5, 734-735.
7. Lim, K. L., and Lim, G. G. (2011) k63-linked ubiquitination and neurodegeneration, *Neurobiol Dis* 43, 9-16.
8. Hjerpe, R., Aillet, F., Lopitz-Otsoa, F., Lang, V., England, P., and Rodriguez, M. S. (2009) Efficient protection and isolation of ubiquitylated proteins using tandem ubiquitin-binding entities, *EMBO Rep* 10, 1250-1258.
9. Hjerpe, R., and Rodriguez, M. S. (2008) Efficient approaches for characterizing ubiquitinated proteins, *Biochem Soc Trans* 36, 823-827.
10. Sims, J. J., Scavone, F., Cooper, E. M., Kane, L. A., Youle, R. J., Boeke, J. D., and Cohen, R. E. (2012) Polyubiquitin sensor proteins reveal localization and linkage-type dependence of cellular ubiquitin signaling, *Nat Meth* 9, 303-309.
11. Altun, M., Kramer, H. B., Willems, L. I., McDermott, J. L., Leach, C. A., Goldenberg, S., Kumar, K. G., Konietzny, R., Fischer, R., Kogan, E., Mackeen, M. M., McGouran, J., Khoronenkova, S. V., Parsons, J. L., Dianov, G. L., Nicholson, B., and Kessler, B. M. (2011) Activity-based chemical proteomics accelerates inhibitor development for deubiquitylating enzymes, *Chem Biol* 18, 1401-1412.
12. Choo, Y. S., and Zhang, Z. (2009) Detection of protein ubiquitination, *J Vis Exp* 30, e1293.

All products are for research use only • not intended for human or animal diagnostic or therapeutic uses  
 Copyright © 2009 LifeSensors, Inc. All Rights Reserved