

Lot # XXXXX

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MATERIAL DATA SHEET

Phospho-Ubiquitin (S65), *human recombinant*

Cat. # U-102

Serine/Threonine kinase PINK1 (PTEN-induced putative kinase protein 1) plays a critical role in preventing mitochondrial dysfunction during cellular stress. PINK is translated in the cytosol, then translocated to the outer mitochondrial membrane where it is rapidly cleaved and degraded as a part of normal mitochondrial function. In damaged (depolarized) mitochondria PINK becomes stabilized and accumulates, resulting in the subsequent phosphorylation of numerous proteins on the mitochondrial surface including Mfn2. Ultimately PARK2 (E3 Ubiquitin Ligase Parkin) is recruited to the damaged mitochondria where it is activated by PINK-mediated phosphorylation of PARK2 at serine 65, and PARK2 interaction with phosphorylated Ubiquitin (also phosphorylated by PINK on serine 65). This signaling cascade is critical for clearing the damaged mitochondria via selective autophagy (mitophagy) by mediating activation and translocation of PARK2.

Recombinant Phospho-Ubiquitin (pS65) is generated enzymatically using PINK1 kinase from Red Flour Beetle (*Tribolium castaneum*).

Product Information

Quantity:	150 µg
Stock:	2 mg/ml (230 µM) in 10 mM HEPES pH 7.5
MW:	8.6 kDa
Purity:	> 95% by LC/MS (AQUA) analysis

Use & Storage

Use:	Reaction conditions will need to be optimized for each specific application.
Storage:	Store at -20°C. Avoid multiple freeze/thaw cycles.

Literature

References:	Matsuda N., <i>et al.</i> (2010) <u>J. Cell Biol.</u> 189 : 211 Kane L.A., <i>et al.</i> (2014) <u>J. Cell Biol.</u> 205 : 143 Ordureau A., <i>et al.</i> (2014) <u>Mol Cell.</u> 56 : 360 Vives-Bauza C., <i>et al.</i> (2010) <u>Proc. Natl. Acad. Sci.</u> 107 : 378 Wauer T., <i>et al.</i> (2015) <u>EMBO J.</u> 34 : 307
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