

Lot # XXXXX

MATERIAL DATA SHEET

PINK1, *P. humanus* recombinant

Cat. # AP-182

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 human PINK1 is not active *in vitro*, while this protein from the human body louse (*Pediculus humanus*) effectively phosphorylates recombinant Parkin, mono-Ubiquitin, and poly-Ubiquitin chains. It specifically phosphorylates both Parkin and Ubiquitin at serine 65. This recombinant protein contains an N-terminal GST tag.

Product Information

Quantity:	100 µg
Stock:	X mg/ml (X µM) in 20 mM HEPES pH 7.6, 50 mM NaCl, 10% (v/v) Glycerol, 1 mM TCEP
MW:	80 kDa
Purity:	> 90% by SDS-PAGE under reducing conditions and visualized by Colloidal Coomassie Blue stain.

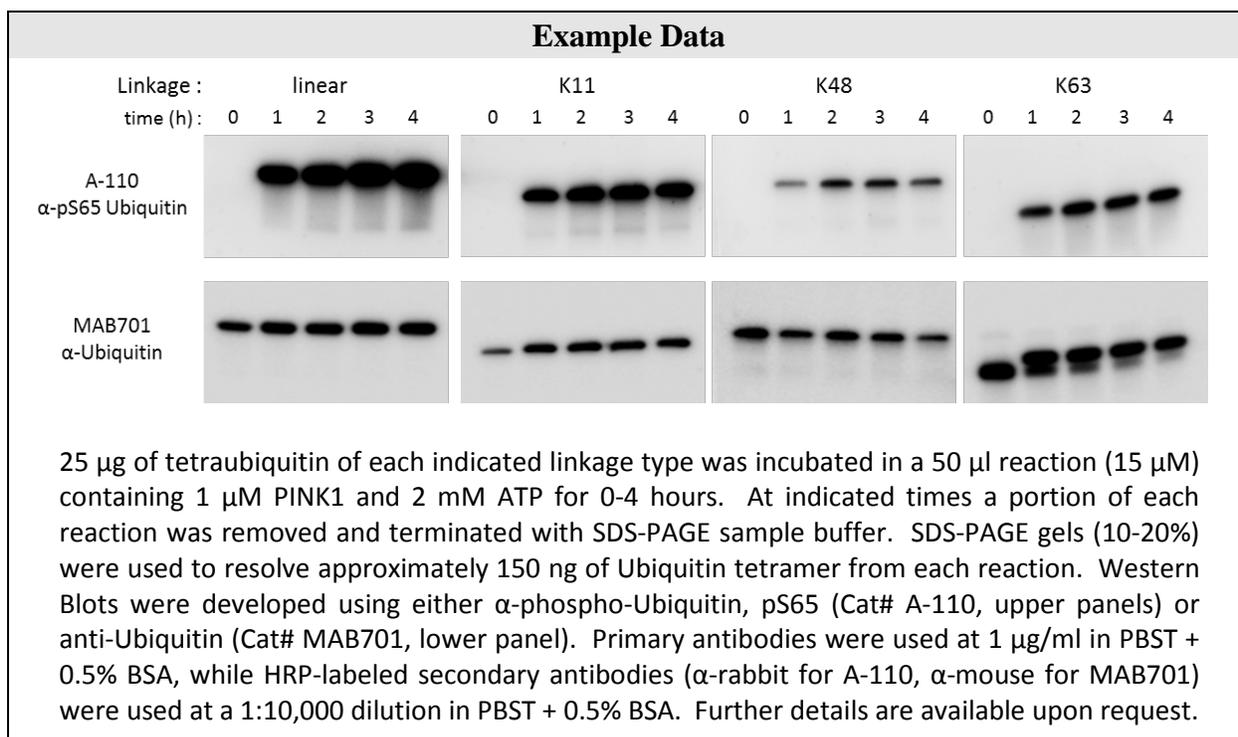
Use & Storage

Use:	Reaction conditions will need to be optimized for each specific application. We recommend an initial PINK1 concentration of 0.5-2 µM for the phosphorylation of recombinant Parkin, Ubiquitin, or Polyubiquitin chains. See Example Data.
Storage:	Store at -80°C. Avoid multiple freeze/thaw cycles.

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Literature

- References:** Kane L.A., *et al.* (2014) *J. Cell Biol.* **205**: 143
Matsuda N., *et al.* (2010) *J. Cell Biol.* **189**: 211
Ordureau A., *et al.* (2014) *Mol. Cell* **56**: 360
Vives-Bauza C., *et al.* (2010) *Proc. Natl. Acad. Sci.* **107**: 378

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