

Active Recombinant *P. humanus* PINK1 Protein, N-GST-tagged

Cat. No. PINK1-16P **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Active Recombinant <i>P. humanus</i> PINK1 Protein, fused to GST at N-terminus, was expressed in <i>E. coli</i> .
Species	<i>Pediculus humanus corporis</i>
Source	<i>E. coli</i>
Protein Length	Trp129 - Asn575
Description	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 1) PINK-mediated phosphorylation of PARK2 at serine 65, and 2) 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 (<i>Pediculus humanus</i>) effectively phosphorylates recombinant Parkin, mono-Ubiquitin, and poly-Ubiquitin chains.

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Form	Supplied as a solution in HEPES, NaCl, Glycerol and TCEP.
Bio-activity	Reaction conditions will need to be optimized for each specific application. We recommend an initial PINK1 concentration of 0.5-2 μ M for the phosphorylation of recombinant Parkin, Ubiquitin, or Polyubiquitin chains.
Molecular Mass	80 kDa
Purity	>85%, by SDS-PAGE under reducing conditions and visualized by Colloidal Coomassie® Blue stain.
Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. 6 months from date of receipt, -70 centigrade as supplied. 3 months, -70 centigrade under sterile conditions after opening.
Shipping	The product is shipped with dry ice or equivalent. Upon receipt, store it immediately at the temperature recommended below.
References	1. Kane, L.A., et al. (2014) J. Cell Biol. 205:143. 2. Matsuda, N., et al. (2010) J. Cell Biol. 189:211. 3. Vives-Bauza, C., et al. (2010) Proc. Natl. Acad. Sci. 107:378. 4. Wauer, T., et al. (2015) EMBO J. 34:307.

GENE INFORMATION

Gene Name	Phum_PHUM577390 serine/threonine-protein kinase PINK1, putative [<i>Pediculus humanus corporis</i> (human body louse)]
Official Symbol	PINK1
Synonyms	BRPK; EC 2.7.11.1; FLJ27236; PARK6; Parkinson disease (autosomal recessive) 6;

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PINK1; protein kinase BRPK; PTEN Induced Kinase 1; PTEN induced putative kinase 1; PTEN-induced putative kinase protein 1; serine/threonine-protein kinase PINK1, mitochondrial; serine/threonine-protein kinase PINK1, putative

Gene ID	8239562
mRNA Refseq	XM_002432180.1
Protein Refseq	XP_002432225.1
UniProt ID	E0W111

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