

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

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

## SPECIFICATION

**Product Overview** Active Recombinant *P. humanus* PINK1 Protein, fused to GST at N-terminus, was expressed in *E. coli*.

**Species** *Pediculus humanus corporis*

**Source** *E. coli*

**ProteinLength** 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 (*Pediculus humanus*) effectively phosphorylates recombinant Parkin, mono-Ubiquitin, and poly-Ubiquitin chains.

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<b>Form</b>	Supplied as a solution in HEPES, NaCl, Glycerol and TCEP.
<b>Bio-activity</b>	Reaction conditions will need to be optimized for each specific application. We recommend an initial PINK1 concentration of 0.5-2 $\mu$ M for the phosphorylation of recombinant Parkin, Ubiquitin, or Polyubiquitin chains.
<b>Molecular Mass</b>	80 kDa
<b>Purity</b>	>85%, by SDS-PAGE under reducing conditions and visualized by Colloidal Coomassie® Blue stain.
<b>Storage</b>	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.
<b>Shipping</b>	The product is shipped with dry ice or equivalent. Upon receipt, store it immediately at the temperature recommended below.
<b>References</b>	<ol style="list-style-type: none"> <li>1. Kane, L.A., et al. (2014) J. Cell Biol. 205:143.</li> <li>2. Matsuda, N., et al. (2010) J. Cell Biol. 189:211.</li> <li>3. Vives-Bauza, C., et al. (2010) Proc. Natl. Acad. Sci. 107:378.</li> <li>4. Wauer, T., et al. (2015) EMBO J. 34:307.</li> </ol>

## GENE INFORMATION

<b>Gene Name</b>	Phum_PHUM577390 serine/threonine-protein kinase PINK1, putative [ <i>Pediculus humanus corporis</i> (human body louse) ]
<b>Official Symbol</b>	PINK1
<b>Synonyms</b>	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	<a href="#">8239562</a>
mRNA Refseq	<a href="#">XM_002432180.1</a>
Protein Refseq	<a href="#">XP_002432225.1</a>
UniProt ID	<a href="#">E0W111</a>

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