

PINK1 Blocking Peptide
Catalog # PBV10442b**Specification**

PINK1 Blocking Peptide - Product Information

Primary Accession	O99MQ3
Other Accession	EDL13261
Gene ID	68943
Calculated MW	63181

PINK1 Blocking Peptide - Additional Information**Gene ID** 68943**Application & Usage**

The peptide is used for blocking the antibody activity of PINK1. It usually blocks the antibody activity completely in Western blot analysis by incubating the peptide with equal volume of antibody for 30-60 minutes at 37°C.

Other Names

Serine/threonine-protein kinase PINK1, mitochondrial, 2.7.11.1, BRPK, PTEN-induced putative kinase protein 1, Pink1

Target/Specificity

PINK1

Formulation

50 µg (0.5 mg/ml) in phosphate buffered saline (PBS), pH 7.2, containing 50% glycerol, 1% BSA and 0.02% thimerosal.

Reconstitution & Storage

-20 °C

Background Descriptions**Precautions**

PINK1 Blocking Peptide is for research use only and not for use in diagnostic or therapeutic procedures.

PINK1 Blocking Peptide - Protein Information**Name** Pink1**Function**

Serine/threonine-protein kinase which protects against mitochondrial dysfunction during cellular stress by phosphorylating mitochondrial proteins such as PRKN and DNML1, to coordinate mitochondrial quality control mechanisms that remove and replace dysfunctional mitochondrial components (PubMed:24652937, PubMed:24784582, PubMed:25474007, PubMed:32484300). Depending on the severity of mitochondrial damage and/or dysfunction, activity ranges from preventing apoptosis and stimulating mitochondrial biogenesis to regulating mitochondrial dynamics and eliminating severely damaged mitochondria via mitophagy (By similarity). Mediates the translocation and activation of PRKN at the outer membrane (OMM) of dysfunctional/d depolarized mitochondria (PubMed:24652937, PubMed:24784582, PubMed:25474007, PubMed:32484300). At the OMM of damaged mitochondria, phosphorylates pre-existing polyubiquitin chains at 'Ser-65', the PINK1-phosphorylated polyubiquitin then recruits PRKN from the cytosol to the OMM where PRKN is fully activated by phosphorylation at 'Ser-65' by PINK1 (PubMed:24652937, PubMed:24784582, PubMed:25474007, PubMed:32484300). In damaged mitochondria, mediates the decision between mitophagy or preventing apoptosis by promoting PRKN-dependent poly- or monoubiquitination of VDAC1; polyubiquitination of VDAC1 by PRKN promotes mitophagy, while monoubiquitination of VDAC1 by PRKN decreases mitochondrial calcium influx which ultimately inhibits apoptosis (By similarity). When cellular stress results in irreversible mitochondrial damage, functions with PRKN to promote clearance of damaged mitochondria via selective autophagy (mitophagy) (PubMed:24784582, PubMed:25474007). The PINK1-PRKN pathway also promotes fission of damaged mitochondria by phosphorylating and thus promoting the PRKN-dependent degradation of mitochondrial proteins involved in fission such as MFN2 (By similarity). This prevents the refusion of unhealthy mitochondria with the mitochondrial network or initiates mitochondrial fragmentation facilitating their later engulfment by autophagosomes (By similarity). Also promotes mitochondrial fission independently of PRKN and ATG7-mediated mitophagy, via the phosphorylation and activation of DNML1 (PubMed:32484300). Regulates motility of damaged mitochondria by promoting the ubiquitination and subsequent degradation of MIRO1 and MIRO2; in motor neurons, this likely inhibits mitochondrial intracellular anterograde transport along the axons which probably increases the chance of the mitochondria undergoing mitophagy in the soma (By similarity). Required for ubiquinone reduction by mitochondrial complex I by mediating phosphorylation of complex I subunit NDUFA10 (PubMed:24652937). Phosphorylates LETM1, positively regulating its mitochondrial calcium transport activity (PubMed:29123128).

Cellular Location

Mitochondrion outer membrane {ECO:0000250|UniProtKB:Q9BXM7}; Single-pass membrane protein. Mitochondrion inner membrane; Single-pass membrane protein. Cytoplasm, cytosol {ECO:0000250|UniProtKB:Q9BXM7} Note=Localizes mostly in mitochondrion and the two smaller proteolytic processed fragments localize mainly in cytosol. When mitochondria lose mitochondrial membrane potential following damage, PINK1 import is arrested, which induces its accumulation in the outer mitochondrial membrane, where it acquires kinase activity {ECO:0000250|UniProtKB:Q9BXM7}

Tissue Location

High levels expressed in testis, lower levels in brain, heart, lung, liver and kidney.

PINK1 Blocking Peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

PINK1 Blocking Peptide - Images