

PINK1 Antibody
Rabbit Polyclonal Antibody
Catalog # ABV10717**Specification**

PINK1 Antibody - Product Information

Application	WB
Primary Accession	Q99MQ3
Other Accession	EDL13261
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	63181

PINK1 Antibody - Additional Information**Gene ID** 68943**Application & Usage**

Western blotting (0.5-4 µg/ml). However, the optimal conditions should be determined individually. The antibody recognizes 55 kDa and 63 kDa isoforms of PINK1 in samples from human, mouse and rat origins. Reactivity to other species has not been tested.

Other Names

PTEN-induced putative kinase 1

Target/Specificity

PINK1

Antibody Form

Liquid

Appearance

Colorless liquid

Formulation

100 µg (0.5 mg/ml) affinity purified rabbit polyclonal antibody in phosphate-buffered saline (PBS), pH 7.2, containing 30% glycerol, 0.5% BSA, and 0.01% thimerosal.

Handling

The antibody solution should be gently mixed before use.

Reconstitution & Storage

-20 °C

Background Descriptions

Precautions

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

PINK1 Antibody - 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 DNM1L, to coordinate mitochondrial quality control mechanisms that remove and replace dysfunctional mitochondrial components (PubMed: [24652937](http://www.uniprot.org/citations/24652937), PubMed: [24784582](http://www.uniprot.org/citations/24784582), PubMed: [25474007](http://www.uniprot.org/citations/25474007), PubMed: [32484300](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/24652937), PubMed: [24784582](http://www.uniprot.org/citations/24784582), PubMed: [25474007](http://www.uniprot.org/citations/25474007), PubMed: [32484300](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/24652937), PubMed: [24784582](http://www.uniprot.org/citations/24784582), PubMed: [25474007](http://www.uniprot.org/citations/25474007), PubMed: [32484300](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/24784582), PubMed: [25474007](http://www.uniprot.org/citations/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 DNM1L (PubMed: [32484300](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/24652937)). Phosphorylates LETM1, positively regulating its mitochondrial calcium transport activity (PubMed: [29123128](http://www.uniprot.org/citations/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}

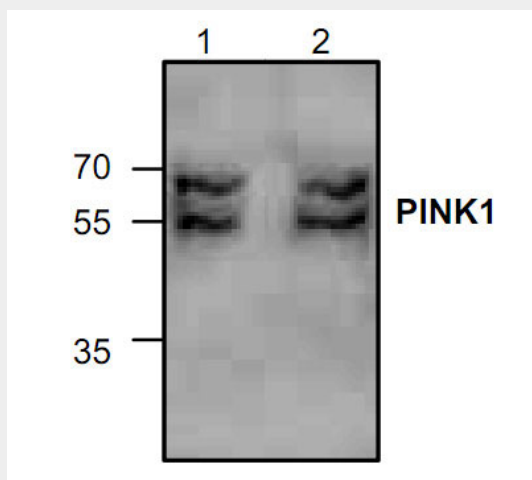
Tissue Location

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

PINK1 Antibody - 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 Antibody - Images

Western blot analysis of PINK1 expression in Jurkat cell lysate (Lane 1 & 2).

PINK1 Antibody - Background

PINK1 (PTEN-induced putative kinase 1) is a serine/threonine protein kinase found in mitochondria. PINK1 protects cell from stress-induced mitochondrial dysfunction. Mutation in this gene is associated with the early onset of Parkinson's disease.