

Product Information

Anti-PINK1

produced in rabbit, affinity isolated antibody

Product Number **P0076**

Product Description

Anti-PINK1 is produced in rabbit using as the immunogen a synthetic peptide corresponding to a fragment of human PINK1 (GeneID: 65018), conjugated to KLH. This sequence is highly conserved (~80% identity) in mouse and rat PINK1. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-PINK1 specifically recognizes human PINK1 (not yet tested in other species). Applications include the detection of PINK1 by immunoblotting (~60 kDa). Staining of the PINK1 band by immunoblotting is specifically inhibited by the PINK1 immunizing peptide.

PINK1 (PTEN induced putative kinase 1, also known as PARK6 and BRPK), has been identified as linked to the autosomal recessive form of familial Parkinson disease (PD).^{1,2} PINK1 is a Ser/Thr kinase that has been localized to the mitochondria, and thought to protect cells from stress-induced mitochondrial dysfunction. PINK1 contains an N-terminal mitochondrial targeting motif and a highly conserved kinase domain homologous to Ser/Thr kinases of the Ca²⁺/calmodulin family.

Overexpression of wild-type PINK1 has been found to protect neurons from stress-induced mitochondrial dysfunction and apoptosis.¹ Genetic studies in *Drosophila* indicate that PINK1 acts upstream of Parkin in a common pathway that influences mitochondrial morphology.³ PINK1 activity has been shown to protect primary neurons in mouse from the dopaminergic neurotoxin MPTP both *in vitro* and *in vivo*. This protective activity requires PINK1 kinase activity, as a PINK1 G309D mutant linked to familial PD or a kinase dead mutant K219M is not protective.⁴ PINK1 has been shown to be cleaved and localized to the mitochondria, in response to enhanced proteasomal stress *in vitro* and correlates with increased expression of the processed PINK1 protein in PD brain.^{5,6}

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody concentration: ~1.5 mg/mL

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2–8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing, or storage in “frost-free” freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working concentration of 1-2 µg/mL is recommended using HEK-293T cell lysate expressing human PINK1.

Note: In order to obtain best results in various techniques and preparations, it is recommended to determine optimal working dilutions by titration.

References

1. Valente, E.M., et al., *Science*, **304**, 1158-1160 (2004).
2. Beilina, A., et al., *Proc. Natl. Acad. Sci. USA*, **102**, 5703-5708 (2005).
3. Park, J., et al., *Nature*, **441**, 1157-1161 (2006).
4. Haque, M.E., et al., *Proc. Natl. Acad. Sci. USA*, **105**, 1716-1721 (2008).
5. Muqit, M.M.K., et al., *J. Neurochem.*, **98**, 156-169 (2006).
6. Gandhi, S., et al., *Brain*, **129**, 1720-1731 (2006).

VS,ER,KAA,PHC,MAM 08/19-1