

Product Information

Anti-PINK1 (N-terminal region)

produced in rabbit, affinity isolated antibody

Product Number **P0051**

Product Description

Anti-PINK1 (N-terminal region) is produced in rabbit using as immunogen a synthetic peptide corresponding to a sequence at the N-terminal of human PINK1 (GeneID: 65018), conjugated to KLH. The corresponding sequence in rat PINK1 has 73% sequence identity. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-PINK1 (N-terminal region) specifically recognizes human PINK1 (not tested yet in other species). The antibody may be used for immunoblotting (~60 kDa). An additional band of ~55 kDa observed in some cell lysates may represent a PINK1 degradation form. 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, BRPK), has been identified as linked to 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 mouse primary neurons from the dopaminergic neurotoxin MPTP both *in vitro* and *in vivo*. This protective activity requires PINK1 kinase activity, since a PINK1 G309D mutant linked to familial PD or a kinase dead mutant K219M, are not protective.⁴ In response to enhanced proteasomal stress *in vitro*, PINK1 has been shown to be cleaved and localized to the mitochondria, and this 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 aliquot at –20 °C. 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 antibody 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 03/19-1