

# PINK1 (C-20): sc-32584

## BACKGROUND

A member of the serine/threonine protein kinase family, PTEN induced putative kinase 1 (PINK1) is a tumor suppressor. PINK1 is primarily located in mitochondria, and is ubiquitously expressed in testis, skeletal muscle, and heart tissue. It can also be detected at lower levels in pancreas, ovary, brain, placenta, kidney, liver, prostate and small intestine. During cellular stress PINK1 protects against mitochondrial dysfunction by inducing phosphorylation mitochondrial proteins. PINK1 mutations may give rise to different autophosphorylation activity. Mutations in the PINK1 gene (PARK6) are associated with early onset Parkinson's disease, a recessive neurodegenerative disorder characterized by resting tremor, muscular rigidity, bradykinesia and postural instability. Parkinson's disease generally involves the presence of intraneuronal accumulations of aggregated proteins (Lewy bodies) in brain neurons.

## REFERENCES

- Unoki, M., et al. 2001. Growth-suppressive effects of BPOZ and EGR2, two genes involved in the PTEN signaling pathway. *Oncogene* 20: 4457-4465.
- Rogaeva, E., et al. 2004. Analysis of the PINK1 gene in a large cohort of cases with Parkinson disease. *Arch. Neurol.* 61: 1898-1904.
- Healy, D.G., et al. 2004. The gene responsible for PARK6 Parkinson's disease, PINK1, does not influence common forms of parkinsonism. *Ann. Neurol.* 56: 329-335.
- Hatano, Y., et al. 2004. Novel PINK1 mutations in early-onset parkinsonism. *Ann. Neurol.* 56: 424-427.
- Valente, E.M., et al. 2004. Hereditary early-onset Parkinson's disease caused by mutations in PINK1. *Science* 304: 1158-1160.
- Silvestri, L., et al. 2005. Mitochondrial import and enzymatic activity of PINK1 mutants associated to recessive parkinsonism. *Hum. Mol. Genet.* 14: 3477-3492.
- Fung, H.C., et al. 2006. Analysis of the PINK1 gene in a cohort of patients with sporadic early-onset parkinsonism in Taiwan. *Neurosci. Lett.* 394: 33-36.

## CHROMOSOMAL LOCATION

Genetic locus: PINK1 (human) mapping to 1p36.12; Pink1 (mouse) mapping to 4 D3.

## SOURCE

PINK1 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of PINK1 of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-32584 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

PINK1 (C-20) is recommended for detection of PINK1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

PINK1 (C-20) is also recommended for detection of PINK1 in additional species, including equine, canine and porcine.

Suitable for use as control antibody for PINK1 siRNA (h): sc-44598, PINK1 siRNA (m): sc-44599, PINK1 shRNA Plasmid (h): sc-44598-SH, PINK1 shRNA Plasmid (m): sc-44599-SH, PINK1 shRNA (h) Lentiviral Particles: sc-44598-V and PINK1 shRNA (m) Lentiviral Particles: sc-44599-V.

Molecular Weight of PINK1: 66 kDa.

Positive Controls: mouse brain extract: sc-2253 or rat brain extract: sc-2392.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## SELECT PRODUCT CITATIONS

- Sakurai, M., et al. 2009. Induction of Parkinson disease-related proteins in motor neurons after transient spinal cord ischemia in rabbits. *J. Cereb. Blood Flow Metab.* 29: 752-758.
- Shan, Y., et al. 2009. Regulation of PINK1 by NR2B-containing NMDA receptors in ischemic neuronal injury. *J. Neurochem.* 111: 1149-1160.
- Morimoto, N., et al. 2010. Induction of parkinsonism-related proteins in the spinal motor neurons of transgenic mouse carrying a mutant SOD1 gene. *J. Neurosci. Res.* 88: 1804-1811.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.