

# PANK1/2 (H-196): sc-292107

## BACKGROUND

PANK (pantothenate kinase) proteins play an important role in the physiological regulation of intracellular CoA concentration and are regulated by feedback inhibition through CoA and its thioesters. PANK1 and PANK2 are 598 and 570 amino acid proteins, respectively, that both exist as 4 alternatively spliced isoforms. While PANK2 is ubiquitously expressed, isoform 1 of PANK1 is expressed in brain, heart, kidney, liver, skeletal muscle and testis, and isoform 2 is expressed in kidney, liver, brain and testis. The genes that encode PANK1 and PANK2 map to human chromosome 10q23.31 and 20p13, respectively. Defects in PANK2 are the cause of hypoproteinemia, acanthocytosis, retinitis pigmentosa, and pallidal degeneration (HARP). In addition, PANK2 mutations lead to neurodegeneration with brain iron accumulation type 1 (NBIA1), an autosomal recessive neurodegenerative disorder associated with iron accumulation in the brain. This accumulation of iron occurs primarily in the basal ganglia.

## REFERENCES

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3. Hörtnagel, K., et al. 2003. An isoform of hPANK2, deficient in pantothenate kinase-associated neurodegeneration, localizes to mitochondria. *Hum. Mol. Genet.* 12: 321-327.
4. Ramaswamy, G., et al. 2004. PPARalpha controls the intracellular coenzyme A concentration via regulation of PANK1α gene expression. *J. Lipid Res.* 45: 17-31.
5. Nicholas, A.P., et al. 2005. Atypical Hallervorden-Spatz disease with preserved cognition and obsessional compulsions. *Mov. Disord.* 20: 880-886.
6. Hong, B.S., et al. 2007. Crystal structures of human pantothenate kinases. Insights into allosteric regulation and mutations linked to a neurodegeneration disorder. *J. Biol. Chem.* 282: 27984-27993.
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## CHROMOSOMAL LOCATION

Genetic locus: PANK1 (human) mapping to 10q23.31, PANK2 (human) mapping to 20p13; Pank1 (mouse) mapping to 19 G1, Pank2 (mouse) mapping to 2 F1.

## SOURCE

PANK1/2 (H-196) is a rabbit polyclonal antibody raised against amino acids 401-596 mapping near the C-terminus of PANK1 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.

## APPLICATIONS

PANK1/2 (H-196) is recommended for detection of PANK1 and PANK2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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).

PANK1/2 (H-196) is also recommended for detection of PANK1 and PANK2 in additional species, including canine, bovine, porcine and avian.

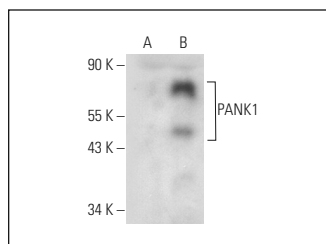
Molecular Weight of PANK1 isoforms: 64/42/36/45 kDa.

Positive Controls: PANK1 (h2): 293T Lysate: sc-372526.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



PANK1/2 (H-196): sc-292107. Western blot analysis of PANK1 expression in non-transfected: sc-117752 (A) and human PANK1 transfected: sc-372526 (B) 293T whole cell lysates.

## 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.