



## PANK1 (G-19): sc-82281

### BACKGROUND

The pantothenate kinase (PANK) family of proteins catalyzes the first step in coenzyme A (CoA). Pantothenate kinase 1 (PANK1) is a 598 amino acid member of the pantothenate kinase family that plays a role in the physiological regulation of the intracellular CoA concentration. Localized to the cytoplasm, PANK1 is strongly inhibited by acetyl-CoA and manyl-CoA, as well as by high concentration of non-esterified CoA (CoASH). Four known isoforms of PANK1 exist as a result of alternative splicing events. Of these isoforms, PANK1 $\alpha$  and PANK1 $\beta$  have been identified as the catalytically active isoforms. Isoform PANK1 $\alpha$  is most highly expressed in brain, heart, kidney, liver, skeletal muscle and kidney. Isoform PANK1 $\beta$  is detected at much lower levels in kidney, liver, brain and testis and is not detected in heart or skeletal muscle.

### REFERENCES

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3. Rock, C.O., et al. 2002. The murine pantothenate kinase (Pank1) gene encodes two differentially regulated pantothenate kinase isozymes. *Gene* 291: 35-43.
4. Ni, X., et al. 2002. Cloning and characterization of a novel human pantothenate kinase gene. *Int. J. Biochem. Cell Biol.* 34: 109-115.
5. Ramaswamy, G., et al. 2004. PPAR $\alpha$  controls the intracellular coenzyme A concentration via regulation of PANK1 $\alpha$  gene expression. *J. Lipid Res.* 45: 17-31.
6. Tilton, G.B., et al. 2006. Plant coenzyme A biosynthesis: characterization of two pantothenate kinases from *Arabidopsis*. *Plant Mol. Biol.* 61: 629-642.
7. 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 (mouse) mapping to 19 C1.

### SOURCE

PANK1 (G-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PANK1 of mouse origin.

### 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.

### PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-82281 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

PANK1 (G-19) is recommended for detection of PANK1 of mouse and rat 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); non cross-reactive with isoform PANK1-2.

Suitable for use as control antibody for PANK1 siRNA (m): sc-76041, PANK1 shRNA Plasmid (m): sc-76041-SH and PANK1 shRNA (m) Lentiviral Particles: sc-76041-V.

Molecular Weight of PANK1: 60 kDa.

### 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.

### PROTOCOLS

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