

PANK1 (h): 293T Lysate: sc-372526

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, PANK1a and PANK1b have been identified as the catalytically active isoforms. Isoform PANK1a is most highly expressed in brain, heart, kidney, liver, skeletal muscle and kidney. Isoform PANK1b 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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2. Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 606160. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
3. Rock, C.O., Karim, M.A., Zhang, Y.M. and Jackowski, S. 2002. The murine pantothenate kinase (PANK1) gene encodes two differentially regulated pantothenate kinase isozymes. *Gene* 291: 35-43.
4. Ni, X., Ma, Y., Cheng, H., Jiang, M., Ying, K., Xie, Y. and Mao, Y. 2002. Cloning and characterization of a novel human pantothenate kinase gene. *Int. J. Biochem. Cell Biol.* 34: 109-115.
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6. Tilton, G.B., Wedemeyer, W.J., Browse, J. and Ohlrogge, J. 2006. Plant coenzyme A biosynthesis: characterization of two pantothenate kinases from *Arabidopsis*. *Plant Mol. Biol.* 61: 629-642.
7. Hong, B.S., Senisterra, G., Rabeh, W.M., Vedadi, M., Leonardi, R., Zhang, Y.M., Rock, C.O., Jackowski, S. and Park, H.W. 2007. Crystal structures of human pantothenate kinases. Insights into allosteric regulation and mutations linked to a neurodegeneration disorder. *J. Biol. Chem.* 282: 27984-27993.
8. Wu, Z., Li, C., Lv, S. and Zhou, B. 2009. Pantothenate kinase-associated neurodegeneration: insights from a *Drosophila* model. *Hum. Mol. Genet.* 18: 3659-3672.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

CHROMOSOMAL LOCATION

Genetic locus: PANK1 (human) mapping to 10q23.31.

PRODUCT

PANK1 (h): 293T Lysate represents a lysate of human PANK1 transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

APPLICATIONS

PANK1 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive PANK1 antibodies. Recommended use: 10-20 μ l per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

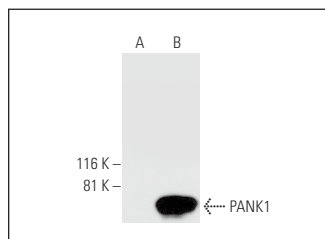
PANK1 (B-9): sc-390865 is recommended as a positive control antibody for Western Blot analysis of enhanced human PANK1 expression in PANK1 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

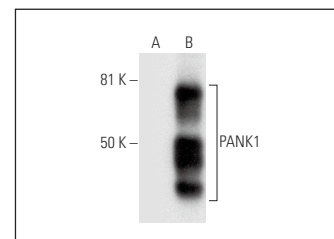
To ensure optimal results, the following support reagents are recommended:

1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



PANK1 (B-9): sc-390865. Western blot analysis of PANK1 expression in non-transfected: sc-117752 (A) and human PANK1 transfected: sc-372526 (B) 293T whole cell lysates.



PANK1/2 (C-4): sc-390595. Western blot analysis of PANK1 expression in non-transfected: sc-117752 (A) and human PANK1 transfected: sc-372526 (B) 293T whole cell lysates.

RESEARCH USE

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