SANTA CRUZ BIOTECHNOLOGY, INC.

PANK1/2 (C-4): sc-390595

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 four 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 hypoprebetalipoproteinemia, 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

1. Zhou, B., et al. 2001. A novel pantothenate kinase gene (PANK2) is defective in Hallervorden-Spatz syndrome. Nat. Genet. 28: 345-349.
2. Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 606157. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
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. PPARα controls the intracellular coenzyme A concentration via regulation of PANK1α gene expression. J. Lipid Res. 45: 17-31.

CHROMOSOMAL LOCATION

Genetic locus: PANK1 (human) mapping to 10q23.31, PANK2 (human) mapping to 20p13; Pank1 (mouse) mapping to 19 C1, Pank2 (mouse) mapping to 2 F1.

SOURCE

PANK1/2 (C-4) is a mouse monoclonal antibody raised against amino acids 401-596 mapping near the C-terminus of PANK1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PANK1/2 (C-4) is available conjugated to agarose (sc-390595 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-390595 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390595 PE), fluorescein (sc-390595 FITC), Alexa Fluor® 488 (sc-390595 AF488), Alexa Fluor® 546 (sc-390595 AF546), Alexa Fluor® 594 (sc-390595 AF594) or Alexa Fluor® 647 (sc-390595 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390595 AF680) or Alexa Fluor® 790 (sc-390595 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

PANK1/2 (C-4) is recommended for detection of PANK1 and PANK2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 (C-4) is also recommended for detection of PANK1 and PANK2 in additional species, including bovine and porcine.

Molecular Weight of PANK1 isoforms 1/2/3/4: 64/42/36/45 kDa.

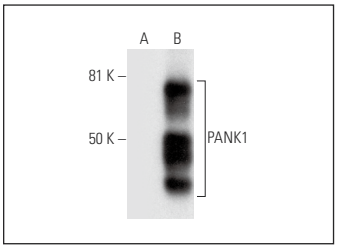
Molecular Weight of PANK2 isoforms 1/2/3/4: 63/31/49/51 kDa.

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

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



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.

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 for detailed protocols and support products.