SANTA CRUZ BIOTECHNOLOGY, INC.

NAPRT (D-8): sc-398746

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

NAPRT (nicotinate phosphoribosyltransferase), also known as FHA-HIT-interacting protein or nicotinate phosphoribosyltransferase domain-containing protein 1, is a 538 amino acid member of the NAPRTase protein family. Localized to the cytoplasm, NAPRT is involved in the biosynthesis of the cofactor NAD^+. NAPRT catalyzes the conversion of nicotinic acid (NA) to NA mononucleotide (NaMN). This conversion is essential to increase cellular NAD levels, which prevents oxidative stress of the cells. NAPRT is expressed as three isoforms produced by alternative splicing events. The gene that encodes NAPRT maps to human chromosome 8, which makes up nearly 146 million bases and encodes about 800 genes. Translocation of portions of chromosome 8 with amplifications of the c-Myc gene are found in some leukemias and lymphomas, and are typically associated with a poor prognosis. Portions of chromosome 8 have been linked to schizophrenia and bipolar disorder.

REFERENCES

1. Wildenauer, D.B. and Schwab, S.G. 1999. Chromosomes 8 and 10 workshop. Am. J. Med. Genet. 88: 239-243.
2. Magni, G., et al. 2004. Enzymology of NAD^+ homeostasis in man. Cell. Mol. Life Sci. 61: 19-34.
3. McQueen, M.B., et al. 2005. Combined analysis from eleven linkage studies of bipolar disorder provides strong evidence of susceptibility loci on chromosomes 6q and 8q. Am. J. Hum. Genet. 77: 582-595.
4. Nusbaum, C., et al. 2006. DNA sequence and analysis of human chromosome 8. Nature 439: 331-335.
5. Hara, N., et al. 2007. Elevation of cellular NAD levels by nicotinic acid and involvement of nicotinic acid phosphoribosyltransferase in human cells. J. Biol. Chem. 282: 24574-24582.
6. Lasky-Su, J., et al. 2008. Genome-wide association scan of quantitative traits for attention deficit hyperactivity disorder identifies novel associations and confirms candidate gene associations. Am. J. Med. Genet. B Neuropsychiatr. Genet. 147B: 1345-1354.

CHROMOSOMAL LOCATION

Genetic locus: NAPRT1 (human) mapping to 8q24.3; Naprt1 (mouse) mapping to 15 D3.

SOURCE

NAPRT (D-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 64-96 within an internal region of NAPRT of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-398746 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

NAPRT (D-8) is recommended for detection of NAPRT 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).

Suitable for use as control antibody for NAPRT siRNA (h): sc-77596, NAPRT siRNA (m): sc-149829, NAPRT shRNA Plasmid (h): sc-77596-SH, NAPRT shRNA Plasmid (m): sc-149829-SH, NAPRT shRNA (h) Lentiviral Particles: sc-77596-V and NAPRT shRNA (m) Lentiviral Particles: sc-149829-V.

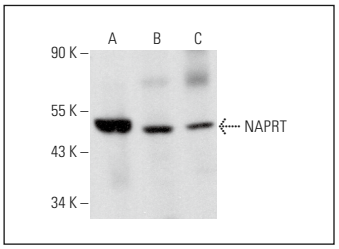
Molecular Weight of NAPRT: 58 kDa.

Positive Controls: human liver extract: sc-363766, mouse liver extract: sc-2256 or mouse kidney extract: sc-2255.

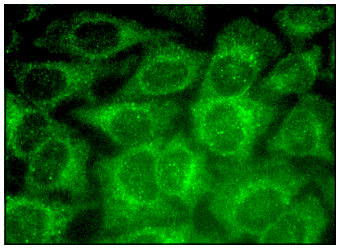
RECOMMENDED SUPPORT REAGENTS

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



NAPRT (D-8): sc-398746. Western blot analysis of NAPRT expression in human liver (**A**), mouse liver (**B**) and mouse kidney (**C**) tissue extracts.



NAPRT (D-8): sc-398746. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and nuclear localization.

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.