SANTA CRUZ BIOTECHNOLOGY, INC.

NYAP2 (E-20): sc-139513

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

NYAP2 (neuronal tyrosine-phosphorylated phosphoinositide-3-kinase adapter 2) is a 653 amino acid protein that is a member of the NYAP family and activates PI3K. At the same time of PI3K activation, NYAP2 recruits the WAVE1 complex near PI3K and aids in neuronal morphogenesis by participating in cytoskeletal remodelization. NYAP2 interacts with ACOT9, PIK3R2 and ARHGAP26, as well as components of CYFIP1 and NAP125. Existing as three alternatively spliced isoforms, NYAP2 is post-translationally phosphorylated at multiple residues. The gene encoding NYAP2 maps to human chromosome 2, which encodes over 1,400 genes and comprises approximately 8% of the human genome. A number of genetic diseases are linked to genes on chromosome 2 including Harlequin icthyosis, sitosterolemia and Alström syndrome.

REFERENCES

1. Baldini, A., Ried, T., Shridhar, V., Ogura, K., D'Aiuto, L., Rocchi, M. and Ward, D.C. 1993. An alphoid DNA sequence conserved in all human and great ape chromosomes: evidence for ancient centromeric sequences at human chromosomal regions 2q21 and 9q13. Hum. Genet. 90: 577-583.
2. Patel, S.B., Salen, G., Hidaka, H., Kwiterovich, P.O., Stalenhoef, A.F., Miettinen, T.A., Grundy, S.M., Lee, M.H., Rubenstein, J.S., Polymeropoulos, M.H. and Brownstein, M.J. 1998. Mapping a gene involved in regulating dietary cholesterol absorption. The sitosterolemia locus is found at chromosome 2p21. J. Clin. Invest. 102: 1041-1044.
3. Zumsteg, U., Muller, P.Y. and Miserez, A.R. 2000. Alstrom syndrome: confirmation of linkage to chromosome 2p12-13 and phenotypic heterogeneity in three affected sibs. J. Med. Genet. 37: E8.
4. Shulenin, S., Schriml, L.M., Remaley, A.T., Fojo, S., Brewer, B., Allikmets, R. and Dean, M. 2001. An ATP-binding cassette gene (ABCG5) from the ABCG (White) gene subfamily maps to human chromosome 2p21 in the region of the Sitosterolemia locus. Cytogenet. Cell Genet. 92: 204-208.
5. Hearn, T., Renforth, G.L., Spalluto, C., Hanley, N.A., Piper, K., Brickwood, S., White, C., Connolly, V., Taylor, J.F., Russell-Eggitt, I., Bonneau, D., Walker, M. and Wilson, D.I. 2002. Mutation of ALMS1, a large gene with a tandem repeat encoding 47 amino acids, causes Alström syndrome. Nat. Genet. 31: 79-83.
6. Kelsell, D.P., Norgett, E.E., Unsworth, H., Teh, M.T., Cullup, T., Mein, C.A., Dopping-Hepenstal, P.J., Dale, B.A., Tadini, G., Fleckman, P., Stephens, K.G., Sybert, V.P., Mallory, S.B., North, B.V., Witt, D.R., Sprecher, E., Taylor, A.E., Ilchyshyn, A., et al. 2005. Mutations in ABCA12 underlie the severe congenital skin disease harlequin ichthyosis. Am. J. Hum. Genet. 76: 794-803.
7. Cantin, G.T., Yi, W., Lu, B., Park, S.K., Xu, T., Lee, J.D. and Yates, J.R. 2008. Combining protein-based IMAC, peptide-based IMAC, and MudPIT for efficient phosphoproteomic analysis. J. Proteome Res. 7: 1346-1351.
8. Dephoure, N., Zhou, C., Villen, J., Beausoleil, S.A., Bakalarski, C.E., Elledge, S.J. and Gygi, S.P. 2008. A quantitative atlas of mitotic phosphorylation. Proc. Natl. Acad. Sci. USA 105: 10762-10767.

CHROMOSOMAL LOCATION

Genetic locus: NYAP2 (human) mapping to 2q36.3; Nyap2 (mouse) mapping to 1 C5.

SOURCE

NYAP2 (E-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the C-terminus of NYAP2 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-139513 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

NYAP2 (E-20) is recommended for detection of NYAP2 of human and mouse origin and RGD1305560 of rat origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunofluorescence (starting dilution 1:25, dilution range 1:25-1:250) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

NYAP2 (E-20) is also recommended for detection of NYAP2 in additional species, including equine, canine, bovine and avian.

Suitable for use as control antibody for NYAP2 siRNA (m): sc-140556, NYAP2 shRNA Plasmid (m): sc-140556-SH and NYAP2 shRNA (m) Lentiviral Particles: sc-140556-V.

Molecular Weight of NYAP2 isoforms: 17/71 kDa.

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) 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.

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 or our catalog for detailed protocols and support products.