SANTA CRUZ BIOTECHNOLOGY, INC.

NETO1 (G-16): sc-82245

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

NETO1 (neuropilin (NRP) and tolloid (TLL)-like 1), also known as BCTL1, is a 533 amino acid protein that contains one LDL-receptor class A domain and 2 CUB domains and is either membrane-bound or secreted. Expressed as three alternatively spliced isoforms, the first two of which are retina-specific and the third of which is found in both retina and brain tissue, NETO1 is thought to be involved in the development and maintenance of neuronal circuitry, possibly playing a role in proper brain function. Human NETO1 shares 95% amino acid identity with its mouse counterpart, suggesting a conserved role between species. The gene encoding NETO1 maps to human chromosome 18, which houses over 300 protein-coding genes and contains nearly 76 million bases. There are a variety of diseases associated with defects in chromosome 18-localized genes, some of which include Trisomy 18 (also known as Edwards syndrome), Niemann-Pick disease, hereditary hemorrhagic telangiectasia, erythropoietic protoporphyria and follicular lymphomas.

REFERENCES

1. Carstea, E.D., Polymeropoulos, M.H., Parker, C.C., Detera-Wadleigh, S.D., O'Neill, R.R., Patterson, M.C., Goldin, E., Xiao, H., Straub, R.E. and Vanier, M.T. 1993. Linkage of Niemann-Pick disease type C to human chromosome 18. Proc. Natl. Acad. Sci. USA 90: 2002-2004.
2. Stöhr, H., Berger, C., Fröhlich, S. and Weber, B.H. 2002. A novel gene encoding a putative transmembrane protein with two extracellular CUB domains and a low-density lipoprotein class A module: isolation of alternatively spliced isoforms in retina and brain. Gene 286: 223-231.
3. Michishita, M., Ikeda, T., Nakashiba, T., Ogawa, M., Tashiro, K., Honjo, T., Doi, K., Itohara, S. and Endo, S. 2003. A novel gene, Btcl1, encoding CUB and LDLa domains is expressed in restricted areas of mouse brain. Biochem. Biophys. Res. Commun. 306: 680-686.
4. Online Mendelian Inheritance in Man, OMIM™. 2003. Johns Hopkins University, Baltimore, MD. MIM Number: 607973. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Chow, R.L., Volgyi, B., Szilard, R.K., Ng, D., McKerlie, C., Bloomfield, S.A., Birch, D.G. and McInnes, R.R. 2004. Control of late off-center cone bipolar cell differentiation and visual signaling by the homeobox gene VSX1. Proc. Natl. Acad. Sci. USA 101: 1754-1759.
6. Ng, D., Pitcher, G.M., Szilard, R.K., Sertie, A., Kanisek, M., Clapcote, S.J., Lipina, T., Kalia, L.V., Joo, D., McKerlie, C., Cortez, M., Roder, J.C., Salter, M.W. and McInnes, R.R. 2009. NETO1 is a novel CUB-domain NMDA receptor-interacting protein required for synaptic plasticity and learning. PLoS Biol. 7: e41.

CHROMOSOMAL LOCATION

Genetic locus: NETO1 (human) mapping to 18q22.3; Neto1 (mouse) mapping to 18 E4.

SOURCE

NETO1 (G-16) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the N-terminus of NETO1 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-82245 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

NETO1 (G-16) is recommended for detection of NETO1 of mouse, rat and human 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 family member NETO 2.

NETO1 (G-16) is also recommended for detection of NETO1 in additional species, including equine, canine, bovine and avian.

Suitable for use as control antibody for NETO1 siRNA (h): sc-75901, NETO1 siRNA (m): sc-75902, NETO1 shRNA Plasmid (h): sc-75901-SH, NETO1 shRNA Plasmid (m): sc-75902-SH, NETO1 shRNA (h) Lentiviral Particles: sc-75901-V and NETO1 shRNA (m) Lentiviral Particles: sc-75902-V.

Molecular Weight of NETO1 precursor: 58 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.