SANTA CRUZ BIOTECHNOLOGY, INC.

NET1 (N-17): sc-6080

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Numerous cellular functions such as proliferation, differentiation, apoptosis, vesicular trafficking, nuclear transport and cytoskeletal organization are controlled by GTPases. It has become increasingly clear that GTPases act in cascades in which their activities are linked by GTPase-activating proteins (GAPs) and guanine nucleotide exchange factors (GEFs). Researchers looking for new epithelial cell-specific oncogenes using a highly efficient cDNA expression cloning system have isolated the Ost oncogene from rat osteosarcoma cells. The Ost proto-oncogene protein contains DH and PH domains, catalyzes guanine nucleotide exchange on RhoA and Cdc42 and interacts specifically with the GTP-bound form of Rac1. The related NET1 protein also contains a DH domain and is ubiquitously expressed in a variety of tissues. Overexpression of NET1 in NIH/3T3 cells results in altered growth properties and tumorigenesis when injected into nude mice.

REFERENCES

1. Miki, T., et al. 1991. Development of a highly efficient expression cDNA cloning system: application to oncogene isolation. Proc. Natl. Acad. Sci. USA 88: 5167-5171.
2. Ron, D., et al. 1991. A region of proto-Dbl essential for its transforming activity shows sequence similarity to a yeast cell cycle gene, Cdc24, and the human breakpoint cluster gene, Bcr. New Biol. 3: 372-379.
3. Boguski, M.S., et al. 1993. Proteins regulating Ras and its relatives. Nature 366: 643-654.
4. Mayer, B.J., et al. 1993. A putative modular domain present in diverse signaling proteins. Cell 73: 629-630.
5. Hart, M.J., et al. 1994. Cellular transformation and guanine nucleotide exchange activity are catalyzed by a common domain on the Dbl oncogene product. J. Biol. Chem. 269: 62-65.
6. Horii, Y., et al. 1994. A novel oncogene, Ost, encodes a guanine nucleotide exchange factor that potentially links Rho and Rac signaling pathways. EMBO J. 13: 4776-4786.
7. Ridley, A.J. 1994. Signal transduction through the GTP-binding proteins Rac and Rho. J. Cell Sci. Suppl. 18: 127-131.

CHROMOSOMAL LOCATION

Genetic locus: NET1 (human) mapping to 10p15.1; Net1 (mouse) mapping to 13 A1.

SOURCE

NET1 (N-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of NET1 of human origin.

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.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-6080 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

NET1 (N-17) is recommended for detection of NET1 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).

NET1 (N-17) is also recommended for detection of NET1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for NET1 siRNA (h): sc-41726, NET1 siRNA (m): sc-41727, NET1 shRNA Plasmid (h): sc-41726-SH, NET1 shRNA Plasmid (m): sc-41727-SH, NET1 shRNA (h) Lentiviral Particles: sc-41726-V and NET1 shRNA (m) Lentiviral Particles: sc-41727-V.

Molecular Weight of NET1: 54 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Shen, X., et al. 2001. The activity of guanine exchange factor NET1 is essential for transforming growth factor-mediated stress fiber formation. J. Biol. Chem. 276: 15362-15368.
2. Brazier, H., et al. 2006. Expression profile of RhoGTPases and RhoGEFs during RANKL-stimulated osteoclastogenesis: identification of essential genes in osteoclasts. J. Bone Miner. Res. 21: 1387-1398.
3. Carvajal-Gonzalez, J.M., et al. 2009. The dioxin receptor regulates the constitutive expression of the vav3 proto-oncogene and modulates cell shape and adhesion. Mol. Biol. Cell 20: 1715-1727.