

NARG1 (E-15): sc-163121

BACKGROUND

NARG1 (NMDA (N-methyl-d-aspartate) receptor-regulated gene 1), also known as NATH (N-terminal acetyltransferase), TBDN100 (tubedown-1) or Ga19 (gastric cancer antigen Ga19), is a cytoplasmic protein that contains eight TPR repeats. NARG1 is expressed at high levels in dividing tissues such as bone marrow, testis and embryonal brain and it is overexpressed in papillary thyroid carcinomas. NARG1 interacts with ARD1 or ARD2 forming a complex that exhibits N-terminal (α) acetyltransferase activity. The complex interacts with ribosomal subunits functioning in cotranslational acetylation. During apoptosis, both NARG1 and ARD1 are cleaved by caspases which results in decreased acetyltransferase activity. Knockdown of NARG1 in HeLa cells leads to apoptosis, indicating that properly functioning NARG1 is essential for cell viability. In addition, this suggests NARG1 as a potential target in cancer therapy.

REFERENCES

1. Sugiura, N., et al. 2001. N-methyl-D-aspartate receptors regulate a group of transiently expressed genes in the developing brain. *J. Biol. Chem.* 276: 14257-14263.
2. Fluge, O., et al. 2002. NATH, a novel gene overexpressed in papillary thyroid carcinomas. *Oncogene* 21: 5056-5068.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 608000. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Sugiura, N., et al. 2003. An evolutionarily conserved N-terminal acetyltransferase complex associated with neuronal development. *J. Biol. Chem.* 278: 40113-40120.
5. Asaumi, M., et al. 2005. Interaction of N-terminal acetyltransferase with the cytoplasmic domain of β -amyloid precursor protein and its effect on A β secretion. *J. Biochem.* 137: 147-155.
6. Arnesen, T., et al. 2005. Identification and characterization of the human ARD1-NATH protein acetyltransferase complex. *Biochem. J.* 386: 433-443.
7. Arnesen, T., et al. 2005. Expression of N-acetyl transferase human and human arrest defective 1 proteins in thyroid neoplasms. *Thyroid* 15: 1131-1136.
8. Arnesen, T., et al. 2006. Characterization of hARD2, a processed hARD1 gene duplicate, encoding a human protein N- α -acetyltransferase. *BMC Biochem.* 7: 13.
9. Arnesen, T., et al. 2006. Induction of apoptosis in human cells by RNAi-mediated knockdown of hARD1 and NATH, components of the protein N- α -acetyltransferase complex. *Oncogene* 25: 4350-4360.

CHROMOSOMAL LOCATION

Genetic locus: NAA15 (human) mapping to 4q31.1; Narg1 (mouse) mapping to 3 C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

SOURCE

NARG1 (E-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of NARG1 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-163121 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

NARG1 (E-15) is recommended for detection of NARG1 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 NARG1L or NARG2.

NARG1 (E-15) is also recommended for detection of NARG1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for NARG1 siRNA (h): sc-89163, NARG1 siRNA (m): sc-149832, NARG1 shRNA Plasmid (h): sc-89163-SH, NARG1 shRNA Plasmid (m): sc-149832-SH, NARG1 shRNA (h) Lentiviral Particles: sc-89163-V and NARG1 shRNA (m) Lentiviral Particles: sc-149832-V.

Molecular Weight of NARG1: 100 kDa.

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.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.