SANTA CRUZ BIOTECHNOLOGY, INC.

NLE1 (N-20): sc-66552

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The Notch signaling pathway is an evolutionary conserved system that is involved in intracellular communication. Notch receptors play an important role in development and cell-fate decisions. Notchless is a loss-of-function mutant allele that encodes for protein NLE1 (notchless homolog 1). NLE1 is a 485 amino acid WD40-repeat protein that binds to the cytoplasmic domain of Notch, regulating its signaling activity in *Drosophila melanogaster* and in mice. Deletion of the NLE1 gene in mice during the early stages of development results in embryonic death, while gene deletion in the late stages of development leads to activation of a caspase-3-dependent apoptotic pathway. In plants, NLE1 is crucial for normal cellular growth and development. Underexpression during shoot proliferation causes pleiotropic defects such as delayed flowering and abnormal organ maturation. It may also play a role in 60S ribosomal subunit biogenesis in yeast. NLE1 contains eight WD40 domains and produces one isoform due to alternative splicing.

REFERENCES

1. Royet, J., Bouwmeester, T. and Cohen, S.M. 1998. Notchless encodes a novel WD40-repeat-containing protein that modulates Notch signaling activity. EMBO J. 17: 7351-7360.
2. Nal, B., Mohr, E., Silva, M.I., Tagett, R., Navarro, C., Carroll, P., Depetris, D., Verthuy, C., Jordan, B.R. and Ferrier, P. 2002. Wdr12, a mouse gene encoding a novel WD-repeat protein with a notchless-like amino-terminal domain. Genomics 79: 77-86.
3. Cormier, S., Le Bras, S., Souilhol, C., Vandormael-Pournin, S., Durand, B., Babinet, C., Baldacci, P. and Cohen-Tannoudji, M. 2006. The murine ortholog of notchless, a direct regulator of the Notch pathway in *Drosophila melanogaster*, is essential for survival of inner cell mass cells. Mol. Cell. Biol. 26: 3541-3549.
4. Chantha, S.C., Emerald, B.S. and Matton, D.P. 2006. Characterization of the plant Notchless homolog, a WD repeat protein involved in seed deveopment. Plant Mol. Biol. 62: 897-912.
5. Chantha, S.C. and Matton, D.P. 2007. Underexpression of the plant Notchless gene, encoding a WD-repeat protein, causes pleitropic phenotype during plant development. Planta 225: 1107-1120.
6. SWISS-PROT/TrEMBL (Q9NVX2). World Wide Web URL: http://www.expasy.ch/sprot/sprot-top.html

CHROMOSOMAL LOCATION

Genetic locus: NLE1 (human) mapping to 17q12; Nle1 (mouse) mapping to 11 C.

SOURCE

NLE1 (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of NLE1 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.

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-66552 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

NLE1 (N-20) is recommended for detection of NLE1 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).

NLE1 (N-20) is also recommended for detection of NLE1 in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for NLE1 siRNA (h): sc-62691, NLE1 siRNA (m): sc-62692, NLE1 shRNA Plasmid (h): sc-62691-SH, NLE1 shRNA Plasmid (m): sc-62692-SH, NLE1 shRNA (h) Lentiviral Particles: sc-62691-V and NLE1 shRNA (m) Lentiviral Particles: sc-62692-V.

Molecular Weight of NLE1: 53 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.

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.