

NLE1 (G-5): sc-377142

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. Under-expression 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

- Royet, J., et al. 1998. Notchless encodes a novel WD40-repeat-containing protein that modulates Notch signaling activity. *EMBO J.* 17: 7351-7360.
- Nal, B., et al. 2002. Wdr12, a mouse gene encoding a novel WD-repeat protein with a notchless-like amino-terminal domain. *Genomics* 79: 77-86.
- Cormier, S., et al. 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.
- Chantha, S.C., et al. 2006. Characterization of the plant Notchless homolog, a WD repeat protein involved in seed development. *Plant Mol. Biol.* 62: 897-912.

CHROMOSOMAL LOCATION

Genetic locus: NLE1 (human) mapping to 17q12.

SOURCE

NLE1 (G-5) is a mouse monoclonal antibody raised against amino acids 1-240 mapping at the N-terminus of NLE1 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-377142 X, 200 µg/0.1 ml.

NLE1 (G-5) is available conjugated to agarose (sc-377142 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377142 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377142 PE), fluorescein (sc-377142 FITC), Alexa Fluor® 488 (sc-377142 AF488), Alexa Fluor® 546 (sc-377142 AF546), Alexa Fluor® 594 (sc-377142 AF594) or Alexa Fluor® 647 (sc-377142 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377142 AF680) or Alexa Fluor® 790 (sc-377142 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

NLE1 (G-5) is recommended for detection of NLE1 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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).

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

NLE1 (G-5) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

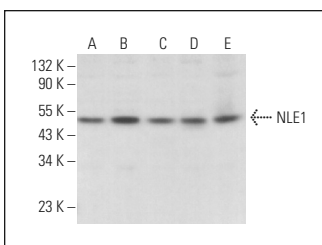
Molecular Weight of NLE1: 53 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, HCT-8 cell lysate: sc-24675 or JAR cell lysate: sc-2276.

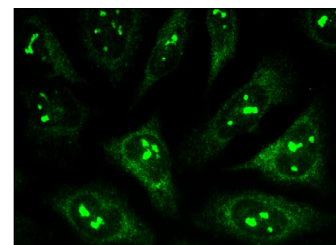
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



NLE1 (G-5): sc-377142. Western blot analysis of NLE1 expression in JAR (A), HeLa (B), HCT-8 (C), SW480 (D) and A549 (E) whole cell lysates.



NLE1 (G-5): sc-377142. Immunofluorescence staining of methanol-fixed HeLa cells showing nucleolar and cytoplasmic localization.

SELECT PRODUCT CITATIONS

- Loevenich, L.P., et al. 2022. SMAD4 loss induces c-MYC-mediated NLE1 upregulation to support protein biosynthesis, colorectal cancer growth and metastasis. *Cancer Res.* 82: 4604-4623.

STORAGE

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

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