SANTA CRUZ BIOTECHNOLOGY, INC.

NELL2 (E-9): sc-390173

BACKGROUND

NELL2 (neural epidermal growth factor-like like 2), also known as NEL-related protein 2 (NRP2), is a secreted glycoprotein with one N-terminal TSP-like domain, five VWFC (von Willebrand factor C) domains and six EGF-like repeats that participate in calcium binding. NELL2 exists as a homotrimer associated with the endoplasmic reticulum (ER) and is specifically expressed in neurons playing a role in calcium-dependent intracellular events. NELL2 may act as a trophic factor in addition to its role as a signaling molecule implicated in the regulation of cell growth and differentiation. Due to alternative splicing, an additional NELL2 isoform exists that is identical to full length NELL2 except that it lacks the signal peptide that directs secretion. The additional isoform is therefore retained in the cytosol and functions as a non-secreted cytoplasmic protein that interacts with PKC bI.

REFERENCES

1. Oyasu, M., et al. 2000. Immunocytochemical localization of a neuron-specific thrombospondin-1-like protein, NELL2: light and electron microscopic studies in the rat brain. Brain Res. Mol. Brain Res. 76: 151-160.
2. Maeda, K., et al. 2001. Brain specific human genes, NELL1 and NELL2, are predominantly expressed in neuroblastoma and other embryonal neuroepithelial tumors. Neurol. Med. Chir. 41: 582-588.
3. Kim, H., et al. 2002. Ontogeny and the possible function of a novel epidermal growth factor-like repeat domain-containing protein, NELL2, in the rat brain. J. Neurochem. 83: 1389-1400.
4. Aihara, K., et al. 2003. A neuron-specific EGF family protein, NELL2, promotes survival of neurons through mitogen-activated protein kinases. Brain Res. Mol. Brain Res. 116: 86-93.
5. Bai, J., et al. 2004. Genistein-induced changes in gene expression in Panc 1 cells at physiological concentrations of genistein. Pancreas 29: 93-98.

CHROMOSOMAL LOCATION

Genetic locus: NELL2 (human) mapping to 12q12.

SOURCE

NELL2 (E-9) is a mouse monoclonal antibody raised against amino acids 229-437 mapping within an internal region of NELL2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

NELL2 (E-9) is available conjugated to agarose (sc-390173 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390173 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390173 PE), fluorescein (sc-390173 FITC), Alexa Fluor® 488 (sc-390173 AF488), Alexa Fluor® 546 (sc-390173 AF546), Alexa Fluor® 594 (sc-390173 AF594) or Alexa Fluor® 647 (sc-390173 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390173 AF680) or Alexa Fluor® 790 (sc-390173 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

NELL2 (E-9) is recommended for detection of NELL2 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 NELL2 siRNA (h): sc-62673, NELL2 shRNA Plasmid (h): sc-62673-SH and NELL2 shRNA (h) Lentiviral Particles: sc-62673-V.

Molecular Weight of NELL2 secreted monomer: 130 kDa.

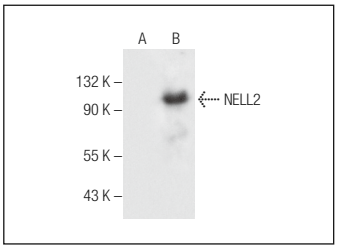
Molecular Weight of NELL2 cytoplasmic monomer: 90 kDa.

Positive Controls: NELL2 (h): 293 Lysate: sc-113389, NTERA-2 cl.D1 whole cell lysate: sc-364181 or U-698-M whole cell lysate: sc-364799.

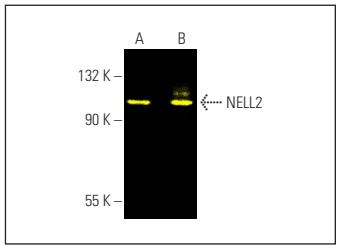
RECOMMENDED SUPPORT REAGENTS

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



NELL2 (E-9): sc-390173. Western blot analysis of NELL2 expression in non-transfected: sc-110760 (**A**) and human NELL2 transfected: sc-113389 (**B**) 293 whole cell lysates.



NELL2 (E-9) Alexa Fluor® 488: sc-390173 AF488. Direct fluorescent western blot analysis of NELL2 expression in NTERA-2 cl.D1 (**A**) and U-698-M (**B**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214.

SELECT PRODUCT CITATIONS

1. Ha, C.M., et al. 2022. Transcriptional regulatory role of NELL2 in preproenkephalin gene expression. Mol. Cells 45: 537-549.

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.