

NCDN (F-12): sc-398588

BACKGROUND

NCDN (neurochondrin) is a 729 amino acid leucine-rich cytoplasmic protein belonging to the neurochondrin family that is involved in nervous system signal transduction and required for spatial learning. Known to act as a negative regulator of CaMKII (Ca²⁺-calmodulin-dependent protein kinase 2) phosphorylation, NCDN may also associate with MCH-1R (melanin-concentrating hormone receptor 1) to modulate its function, and is suggested to play a role in bone metabolism, neurite outgrowth and chondrocyte differentiation. Due to alternative splicing events, three NCDN isoforms are known to exist which are highly expressed in adult brain and spinal cord, and found at lower levels in fetal brain, ovary and testis. Localizing to somatic regions of neurons, NCDN is encoded by a gene that maps to human chromosome 1p34.3 and mouse chromosome 4 D2.2.

REFERENCES

1. Nagase, T., et al. 1998. Prediction of the coding sequences of unidentified human genes. IX. The complete sequences of 100 new cDNA clones from brain which can code for large proteins *in vitro*. DNA Res. 5: 31-39.
2. Mochizuki, R., et al. 1999. Molecular cloning and expression of human neurochondrin-1 and -2. Biochim. Biophys. Acta 1446: 397-402.
3. Mochizuki, R., et al. 2000. Corrigendum to "molecular cloning and expression of human neurochondrin-1 and -2". Biochim. Biophys. Acta 1490: 367-368.
4. Mochizuki, R., et al. 2003. Targeted disruption of the neurochondrin/norbin gene results in embryonic lethality. Biochem. Biophys. Res. Commun. 310: 1219-1226.
5. Dateki, M., et al. 2005. Neurochondrin negatively regulates CaMKII phosphorylation, and nervous system-specific gene disruption results in epileptic seizure. J. Biol. Chem. 280: 20503-20508.
6. Wang, H., et al. 2009. Norbin is an endogenous regulator of metabotropic glutamate receptor 5 signaling. Science 326: 1554-1557.
7. Online Mendelian Inheritance in Man, OMIM™. 2010. Johns Hopkins University, Baltimore, MD. MIM Number: 608458. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: NCDN (human) mapping to 1p34.3; Ncdn (mouse) mapping to 4 D2.2.

SOURCE

NCDN (F-12) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 17-44 near the N-terminus of NCDN 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.

PROTOCOLS

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

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-398588 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

NCDN (F-12) is recommended for detection of NCDN of mouse, rat and 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 NCDN siRNA (h): sc-78668, NCDN siRNA (m): sc-149854, NCDN shRNA Plasmid (h): sc-78668-SH, NCDN shRNA Plasmid (m): sc-149854-SH, NCDN shRNA (h) Lentiviral Particles: sc-78668-V and NCDN shRNA (m) Lentiviral Particles: sc-149854-V.

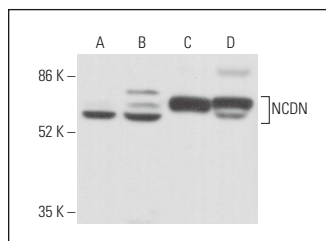
Molecular Weight of NCDN: 78 kDa.

Positive Controls: NCDN (h): 293T Lysate: sc-159762, C6 whole cell lysate: sc-364373 or EOC 20 whole cell lysate: sc-364187.

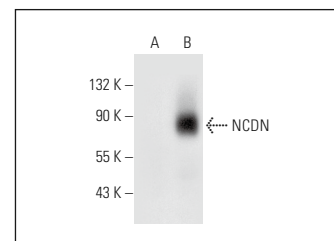
RECOMMENDED SUPPORT REAGENTS

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 L-Agarose: sc-2336 (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



NCDN (F-12): sc-398588. Western blot analysis of NCDN expression in EOC 20 (A) and C6 (B) whole cell lysates and human brain (C) and mouse brain (D) tissue extracts.



NCDN (F-12): sc-398588. Western blot analysis of NCDN expression in non-transfected: sc-117752 (A) and human NCDN transfected: sc-159762 (B) 293T whole cell lysates.

RESEARCH USE

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