

# Nova-2 (C-16): sc-10546

## BACKGROUND

Nova-1 and Nova-2 are members of a superfamily of protein regulators of RNA metabolism in neurons. Both are nuclear RNA binding proteins with K homology motifs, conserved protein sequences which bind to RNA. Nova proteins, normally sequestered in the central nervous system, are expressed by systemic tumors in patients with the autoimmune disorder paraneoplastic opsoclonus-myoclonus ataxia (POMA). Nova-1 is expressed in the hindbrain and ventral spinal cord and Nova-2 is expressed in the neocortex and hippocampus. Nova-1 is necessary for regulating neuron-specific alternative splicing of the glycine receptor  $\alpha 2$  pre-mRNA.

## REFERENCES

1. Burd, C.G. and Dreyfuss, G. 1994. Conserved structures and diversity of functions of RNA-binding proteins. *Science* 265: 615-621.
2. Darnell, R.B. 1996. Onconeural antigens and the paraneoplastic neurologic disorders: at the intersection of cancer, immunity, and the brain. *Proc. Natl. Acad. Sci. USA* 93: 4529-4536.
3. Yang, Y.Y., Yin, G.L. and Darnell, R.B. 1998. The neuronal RNA-binding protein Nova-2 is implicated as the autoantigen targeted in POMA patients with dementia. *Proc. Natl. Acad. Sci. USA* 95: 13254-13259.
4. Lewis, H.A., Chen, H., Edo, C., Buckanovich, R.J., Yang, Y.Y., Musunuru, K., Zhong, R., Darnell, R.B. and Burley, S.K. 1999. Crystal structures of Nova-1 and Nova-2 K-homology RNA-binding domains. *Structure* 7: 191-203.
5. Jensen, K.B., Dredge, B.K., Stefani, G., Zhong, R., Buckanovich, R.J., Okano, H.J., Yang, Y.Y. and Darnell, R.B. 2000. Nova-1 regulates neuron-specific alternative splicing and is essential for neuronal variability. *Neuron* 25: 359-371.

## CHROMOSOMAL LOCATION

Genetic locus: NOVA2 (human) mapping to 19q13.32; Nova2 (mouse) mapping to 7 A3.

## SOURCE

Nova-2 (C-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Nova-2 of human origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-10546 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## 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.

## APPLICATIONS

Nova-2 (C-16) is recommended for detection of Nova-2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Nova-2 (C-16) is also recommended for detection of Nova-2 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for Nova-2 siRNA (h): sc-42144, Nova-2 siRNA (m): sc-42145, Nova-2 shRNA Plasmid (h): sc-42144-SH, Nova-2 shRNA Plasmid (m): sc-42145-SH, Nova-2 shRNA (h) Lentiviral Particles: sc-42144-V and Nova-2 shRNA (m) Lentiviral Particles: sc-42145-V.

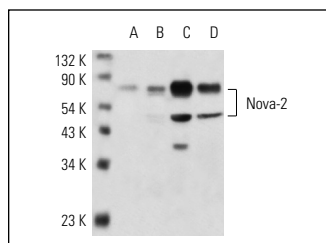
Molecular Weight of Nova-2: 48/75 kDa.

Positive Controls: rat brain extract: sc-2392, IMR-32 cell lysate: sc-2409 or mouse brain extract: sc-2253.

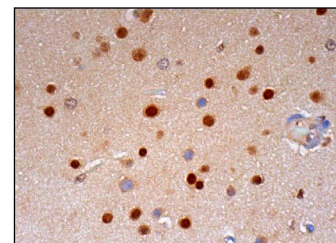
## RECOMMENDED SECONDARY REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

## DATA



Nova-2 (C-16): sc-10546. Western blot analysis of Nova-2 expression in H4 (A) and IMR-32 (B) whole cell lysates and mouse brain (C) and rat brain (D) tissue extracts.



Nova-2 (C-16): sc-10546. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebral cortex tissue showing nuclear staining of neuronal cells and glial cells.

## SELECT PRODUCT CITATIONS

1. Jelen, N., Ule, J. and Zivin, M. 2010. Cholinergic regulation of striatal Nova mRNAs. *Neuroscience* 169: 619-627.