SANTA CRUZ BIOTECHNOLOGY, INC.

Nova-2 (V-17): sc-10544

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 α2 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., et al. 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., et al. 1999. Crystal structures of Nova-1 and Nova-2 K-homology RNA-binding domains. Structure 7: 191-203.
5. Jensen, K.B., et al. 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 (V-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Nova-2 of human origin.

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-10544 P, (100 µg 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.

PROTOCOLS

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

APPLICATIONS

Nova-2 (V-17) 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 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Nova-2 (V-17) 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.

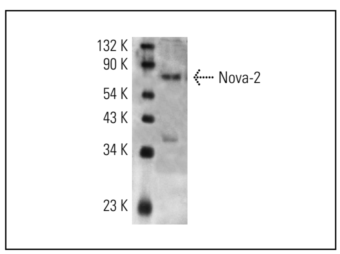
Molecular Weight of Nova-2: 48/75 kDa.

Positive Controls: H4 cell lysate: sc-2408, 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.

DATA



Nova-2 (V-17): sc-10544. Western blot analysis of Nova-2 expression in H4 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Dang, Y., et al. 2006. Eukaryotic initiation factor 2α-independent pathway of stress granule induction by the natural product pateamine A. J. Biol. Chem. 281: 32870-32878.
2. Kedersha, N., et al. 2007. Mammalian stress granules and processing bodies. Meth. Enzymol. 431: 61-81.
3. Simpson-Holley, M., et al. 2011. Formation of antiviral cytoplasmic granules during orthopoxvirus infection. J. Virol. 85: 1581-1593.