

NRSF (C-15): sc-15120

BACKGROUND

NRSF (neuron-restrictive silencer factor, also designated XBR and REST for RE1-silencing factor) is a silencer protein that binds the DNA sequence element NRSE (neuron-restrictive silencer element). The binding of NRSF to the NRSE represses neuronal gene transcription in non-neuronal cells. Although NRSF is most highly expressed in non-neural tissues, it is also expressed in developing neurons and at low levels in the brain. NRSF contains nine zinc-finger domains, but also exists as a C-terminally truncated form produced by alternative splicing. This variant, REST4, contains five of the zinc-finger domains and weakly binds DNA, yet is transported to the nucleus. NRSF associates with mSin3 and HDAC in ventricular myocytes, suggesting a role for NRSF outside the nervous system. Down-regulation of NRSF, which normally occurs upon neural differentiation, is necessary for the proper development of certain classes of neurons. NRSF is required to repress neuronal gene expression *in vivo*, in both extra-neural and undifferentiated neural tissue.

REFERENCES

1. Schoenherr, C.J., et al. 1995. The neuron-restrictive silencer factor (NRSF): a coordinate repressor of multiple neuron-specific genes. *Science* 267: 1360-1363.
2. Chen, Z.F., et al. 1998. NRSF/REST is required *in vivo* for repression of multiple neuronal target genes during embryogenesis. *Nat. Genet.* 20: 136-142.
3. Huang, Y., et al. 1999. Transcriptional repression by REST: recruitment of Sin3A and histone deacetylase to neuronal genes. *Nat. Neurosci.* 2: 867-872.
4. Paquette, A.J., et al. 2000. Constitutive expression of the neuron-restrictive silencer factor (NRSF)/REST in differentiating neurons disrupts neuronal gene expression and causes axon pathfinding errors *in vivo*. *Proc. Natl. Acad. Sci. USA* 97: 12318-12323.
5. Lee, J.H., et al. 2000. Studies on the interaction of REST4 with the cholinergic repressor element-1/neuron restrictive silencer element. *Brain Res. Mol. Brain Res.* 80: 88-98.

CHROMOSOMAL LOCATION

Genetic locus: REST (human) mapping to 4q12; Rest (mouse) mapping to 5 C3.3.

SOURCE

NRSF (C-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of NRSF 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. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-15120 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-15120 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

NRSF (C-15) is recommended for detection of NRSF of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

NRSF (C-15) is also recommended for detection of NRSF in additional species, including equine, canine, bovine and avian.

Suitable for use as control antibody for NRSF siRNA (h): sc-38129, NRSF siRNA (m): sc-38130, NRSF shRNA Plasmid (h): sc-38129-SH, NRSF shRNA Plasmid (m): sc-38130-SH, NRSF shRNA (h) Lentiviral Particles: sc-38129-V and NRSF shRNA (m) Lentiviral Particles: sc-38130-V.

NRSF (C-15) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of NRSF: 116 kDa.

Positive Controls: RAW 264.7 nuclear extract: sc-24961.

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) 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.

SELECT PRODUCT CITATIONS

1. Plaisance, V., et al. 2005. The repressor element silencing transcription factor (REST)-mediated transcriptional repression requires the inhibition of Sp1. *J. Biol. Chem.* 280: 401-407.
2. Wang, Y., et al. 2009. Opposite effects of interleukin-1 α and transforming growth factor- β 2 induce stage-specific regulation of junctional adhesion molecule-B gene in *Sertoli cells*. *Endocrinology* 150: 2404-2412.

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.



Try **NRSF (F-3): sc-374611**, our highly recommended monoclonal alternative to NRSF (C-15). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **NRSF (F-3): sc-374611**.