

NRSF (P-18): sc-15118

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.

CHROMOSOMAL LOCATION

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

SOURCE

NRSF (P-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region 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-15118 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-15118 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

NRSF (P-18) 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).

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 (P-18) 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.

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.

SELECT PRODUCT CITATIONS

1. Kuwabara, T., et al. 2004. A small modulatory dsRNA specifies the fate of adult neural stem cells. *Cell* 116: 779-793.
2. Bruce, A.W., et al. 2004. Genome-wide analysis of repressor element 1 silencing transcription factor/neuron-restrictive silencing factor (REST/NRSF) target genes. *Proc. Natl. Acad. Sci. USA* 101: 10458-63.
3. Johnson, R., et al. 2006. Identification of the REST regulon reveals extensive transposable element-mediated binding site duplication. *Nucleic Acids Res.* 34: 3862-3877.
4. Barrachina, M. 2007. Target genes of neuron-restrictive silencer factor are abnormally up-regulated in human myotilinopathy. *Am. J. Pathol.* 171: 1312-1323.
5. Patel, P.D., et al. 2007. Regulation of tryptophan hydroxylase-2 gene expression by a bipartite RE-1 silencer of transcription/neuron restrictive silencing factor (REST/NRSF) binding motif. *J. Biol. Chem.* 282: 26717-26724.
6. Ding, N., et al. 2008. Mediator links epigenetic silencing of neuronal gene expression with x-linked mental retardation. *Mol. Cell* 31: 347-359.
7. Donev, R.M., et al. 2008. Modulation of CD59 expression by restrictive silencer factor-derived peptides in cancer immunotherapy for neuroblastoma. *Cancer Res.* 68: 5979-5987.
8. Ding, N., et al. 2009. Med19 and Med26 are synergistic functional targets of the RE1 silencing transcription factor in epigenetic silencing of neuronal gene expression. *J. Biol. Chem.* 284: 2648-2656.
9. Mehedint, M.G., et al. 2010. Choline deficiency alters global histone methylation and epigenetic marking at the Re1 site of the calbindin 1 gene. *FASEB J.* 24: 184-195.
10. Iannotti, F.A., et al. 2013. Specification of skeletal muscle differentiation by repressor element-1 silencing transcription factor (REST)-regulated Kv7.4 potassium channels. *Mol. Biol. Cell* 24: 274-284.

PROTOCOLS

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