

NRSF (F-3): sc-374611

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-neuronal 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-neuronal and undifferentiated neural tissue.

CHROMOSOMAL LOCATION

Genetic locus: REST (human) mapping to 4q12.

SOURCE

NRSF (F-3) is a mouse monoclonal antibody raised against amino acids 1-290 of NRSF of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain 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-374611 X, 200 µg/0.1 ml.

NRSF (F-3) is available conjugated to agarose (sc-374611 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374611 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374611 PE), fluorescein (sc-374611 FITC), Alexa Fluor® 488 (sc-374611 AF488), Alexa Fluor® 546 (sc-374611 AF546), Alexa Fluor® 594 (sc-374611 AF594) or Alexa Fluor® 647 (sc-374611 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374611 AF680) or Alexa Fluor® 790 (sc-374611 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

NRSF (F-3) is recommended for detection of NRSF of 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 NRSF siRNA (h): sc-38129, NRSF shRNA Plasmid (h): sc-38129-SH and NRSF shRNA (h) Lentiviral Particles: sc-38129-V.

NRSF (F-3) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

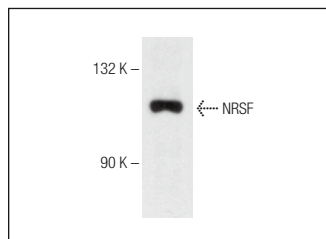
Molecular Weight of NRSF: 116 kDa.

Positive Controls: HeLa nuclear extract: sc-2120 or Hep G2 nuclear extract: sc-364819.

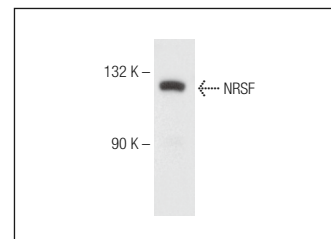
STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



NRSF (F-3): sc-374611. Western blot analysis of NRSF expression in HeLa nuclear extract.



NRSF (F-3): sc-374611. Western blot analysis of NRSF expression in Hep G2 nuclear extract.

SELECT PRODUCT CITATIONS

1. Sankar, S., et al. 2013. Mechanism and relevance of EWS/FLI-mediated transcriptional repression in Ewing sarcoma. *Oncogene* 32: 5089-5100.
2. Nair, S., et al. 2014. Nicotine-mediated invasion and migration of non-small cell lung carcinoma cells by modulating STMN3 and GSPT1 genes in an ID1-dependent manner. *Mol. Cancer* 13: 173.
3. Halevy, T., et al. 2015. Molecular mechanisms regulating the defects in fragile X syndrome neurons derived from human pluripotent stem cells. *Stem Cell Reports* 4: 37-46.
4. Choi, Y.J., et al. 2019. PIN1 transcript variant 2 acts as a long non-coding RNA that controls the HIF-1-driven hypoxic response. *Sci. Rep.* 9: 10599.
5. Sun, C.Y., et al. 2021. Indoxyl sulfate caused behavioral abnormality and neurodegeneration in mice with unilateral nephrectomy. *Aging* 13: 6681-6701.
6. Pajarillo, E., et al. 2021. Astrocytic transcription factor REST upregulates glutamate transporter EAAT2, protecting dopaminergic neurons from manganese-induced excitotoxicity. *J. Biol. Chem.* 297: 101372.
7. Pajarillo, E., et al. 2022. Deletion of RE1-silencing transcription factor in striatal astrocytes exacerbates manganese-induced neurotoxicity in mice. *Glia* 70: 1886-1901.
8. Zhang, Z., et al. 2024. Forkhead box protein FOXK1 disrupts the circadian rhythm to promote breast tumorigenesis in response to insulin resistance. *Cancer Lett.* 599: 217147.
9. Zhao, M., et al. 2025. FOXK1 promotes hormonally responsive breast carcinogenesis by suppressing apoptosis. *Animal Model. Exp. Med.* 8: 638-648.

RESEARCH USE

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

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