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NRSF Rabbit pAb

Catalog # AP97572

Product Information

Application	WB, IHC-P, IHC-F, IF, IP
Primary Accession	Q13127
Other Accession	Q13127
Reactivity	Human
Predicted	Rat, Pig, Mouse, Rabbit, Chicken, Horse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	121872
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human NRSF
Epitope Specificity	401-450/1097
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Contains 9 C2H2-type zinc fingers.
SUBUNIT	Interacts with SIN3A, SIN3B and RCOR1. Interacts with CDYL. Interacts with EHMT1 and EHMT2 only in the presence of CDYL. Part of a complex containing at least CDYL, REST, WIZ, SETB1, EHMT1 and EHMT2.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	This gene encodes a transcriptional repressor that represses neuronal genes in non-neuronal tissues. It is a member of the Kruppel-type zinc finger transcription factor family. It represses transcription by binding a DNA sequence element called the neuron-restrictive silencer element. The protein is also found in undifferentiated neuronal progenitor cells and it is thought that this repressor may act as a master negative regular of neurogenesis. Alternatively spliced transcript variants have been described [provided by RefSeq, Jul 2010]

Additional Information

Gene ID	5978
Other Names	DFNA27; GINGF5; HGF5; NRSF; WT6; XBR; 2610008J04Rik; REST4; REST_HUMAN; REST; Neural-restrictive silencer factor; X2 box repressor; Q155C6_MOUSE; REST_MOUSE; REST_RAT; O54964_RAT; RE1 silencing transcription factor; RE1-silencing transcription factor; deafness, autosomal dominant 27; neuron-restrictive silencer factor
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500,IP=1:50-200
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody

is stable for at least two weeks at 2-4 °C.

Protein Information

Name	REST
Synonyms	NRSF, XBR
Function	Transcriptional repressor which binds neuron-restrictive silencer element (NRSE) and represses neuronal gene transcription in non-neuronal cells (PubMed:11741002, PubMed:11779185, PubMed:12399542, PubMed:26551668, PubMed:7697725, PubMed:7871435, PubMed:8568247). Restricts the expression of neuronal genes by associating with two distinct corepressors, SIN3A and RCOR1, which in turn recruit histone deacetylase to the promoters of REST-regulated genes (PubMed:10449787, PubMed:10734093). Mediates repression by recruiting the BHC complex at RE1/NRSE sites which acts by deacetylating and demethylating specific sites on histones, thereby acting as a chromatin modifier (By similarity). Transcriptional repression by REST-CDYL via the recruitment of histone methyltransferase EHMT2 may be important in transformation suppression (PubMed:19061646). Represses the expression of SRRM4 in non-neural cells to prevent the activation of neural- specific splicing events and to prevent production of REST isoform 3 (By similarity). Repressor activity may be inhibited by forming heterodimers with isoform 3, thereby preventing binding to NRSE or binding to corepressors and leading to derepression of target genes (PubMed:11779185). Also maintains repression of neuronal genes in neural stem cells, and allows transcription and differentiation into neurons by dissociation from RE1/NRSE sites of target genes (By similarity). Thereby is involved in maintaining the quiescent state of adult neural stem cells and preventing premature differentiation into mature neurons (PubMed:21258371). Plays a role in the developmental switch in synaptic NMDA receptor composition during postnatal development, by repressing GRIN2B expression and thereby altering NMDA receptor properties from containing primarily GRIN2B to primarily GRIN2A subunits (By similarity). Acts as a regulator of osteoblast differentiation (By similarity). Key repressor of gene expression in hypoxia; represses genes in hypoxia by direct binding to an RE1/NRSE site on their promoter regions (PubMed:27531581). May also function in stress resistance in the brain during aging; possibly by regulating expression of genes involved in cell death and in the stress response (PubMed:24670762). Repressor of gene expression in the hippocampus after ischemia by directly binding to RE1/NRSE sites and recruiting SIN3A and RCOR1 to promoters of target genes, thereby promoting changes in chromatin modifications and ischemia-induced cell death (By similarity). After ischemia, might play a role in repression of miR-132 expression in hippocampal neurons, thereby leading to neuronal cell death (By similarity). Negatively regulates the expression of SRRM3 in breast cancer cell lines (PubMed:26053433).
Cellular Location	Nucleus. Cytoplasm. Note=Colocalizes with ZFP90 in the nucleus (By similarity). In response to hypoxia, there is a more pronounced increase in levels in the nucleus as compared to the cytoplasm (PubMed:27531581). In aging neurons, increased levels in the nucleus as compared to the cytoplasm (PubMed:24670762, PubMed:30684677). {ECO:0000250|UniProtKB:Q8VIG1, ECO:0000269|PubMed:24670762, ECO:0000269|PubMed:27531581, ECO:0000269|PubMed:30684677} [Isoform 3]: Nucleus
Tissue Location	Expressed in neurons of the prefrontal cortex, in hippocampal pyramidal neurons, dentate gyrus granule neurons and cerebellar Purkinje and granule

neurons (at protein level) (PubMed:24670762). Expressed in dopaminergic neurons of the substantia nigra (at protein level) (PubMed:30684677). Expressed in neural progenitor cells (at protein level) (PubMed:21258371). In patients suffering from Alzheimer disease, frontotemporal dementia or dementia with Lewy bodies, decreased nuclear levels have been observed in neurons of the prefrontal cortex and the hippocampus, but not in neurons of the dentate gyrus and cerebellum (at protein level) (PubMed:24670762). In patients with Parkinson disease or dementia with Lewy bodies, decreased nuclear levels have been observed in dopaminergic neurons and in cortical neurons and localization to Lewy bodies and pale bodies was detected (at protein level) (PubMed:30684677). Expressed at higher levels in weakly invasive breast cancer cell lines and at lower levels in highly invasive breast cancer lines (at protein level) (PubMed:26053433). Ubiquitous (PubMed:8568247). Expressed at higher levels in the tissues of the lymphocytic compartment, including spleen, thymus, peripheral blood lymphocytes and ovary (PubMed:8568247).

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.