10320 Camino Santa Fe, Suite G
San Diego, CA 92121
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REST Antibody (Center)
Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP16994c

Specification

REST Antibody (Center) - Product Information

Application	**WB,E**
Primary Accession	Q13127
Other Accession	NP_005603.3, NP_001180437.1
Reactivity	**Human**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Antigen Region	**542-570**

REST Antibody (Center) - Additional Information

Gene ID 5978

Other Names
RE1-silencing transcription factor, Neural-restrictive silencer factor, X2 box repressor, REST, NRSF, XBR

Target/Specificity
This REST antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 542-570 amino acids from the Central region of human REST.

Dilution
WB~~1:2000

Format
Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

Storage
Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
REST Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

REST Antibody (Center) - 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:12399542, PubMed:26551668, PubMed:7697725, PubMed:7871435, PubMed:8568247, PubMed:11741002, PubMed:11779185). 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).

REST Antibody (Center) - Protocols

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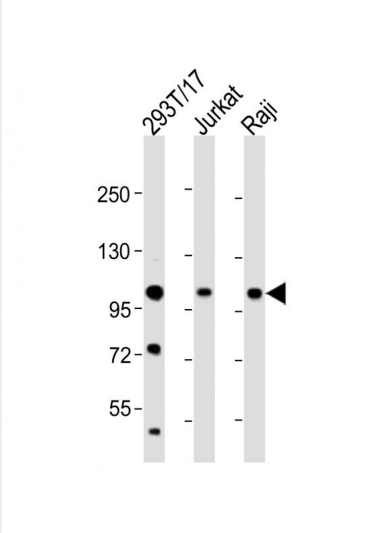
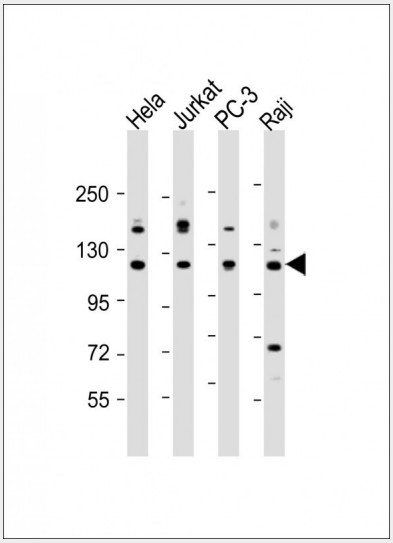
Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

REST Antibody (Center) - Images



All lanes : Anti-REST Antibody (Center) at 1:2000 dilution Lane 1: 293T/17 whole cell lysate Lane 2: Jurkat whole cell lysate Lane 3: Raji whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 122 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



All lanes : Anti-REST Antibody (Center) at 1:2000 dilution Lane 1: Hela whole cell lysate Lane 2: Jurkat whole cell lysate Lane 3: PC-3 whole cell lysate Lane 4: Raji whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated

at 1/10000 dilution. Predicted band size : 122 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

REST Antibody (Center) - Background

Transcriptional repressor which binds neuron-restrictive silencer element (NRSE) and represses neuronal gene transcription in non-neuronal cells. Restricts the expression of neuronal genes by associating with two distinct corepressors, mSin3 and CoREST, which in turn recruit histone deacetylase to the promoters of REST-regulated genes. 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.