

**Goat Anti-RE1-silencing transcription factor Antibody (internal region)**  
**Purified Goat Polyclonal Antibody**  
**Catalog # AF4242a**

**Specification**

**Goat Anti-RE1-silencing transcription factor Antibody (internal region) - Product Information**

Application	WB, E
Primary Accession	<a href="#">Q13127</a>
Other Accession	<a href="#">NP_005603.3</a>
Reactivity	Human
Predicted	Human
Host	Goat
Clonality	Polyclonal
Concentration	0.5
Calculated MW	121872

**Goat Anti-RE1-silencing transcription factor Antibody (internal region) - Additional Information**

**Gene ID 5978**

**Other Names**

REST; RE1-silencing transcription factor; NRSF; XBR; RE1-silencing transcription factor variant E1a/E2/E3/E4c; RE1-silencing transcription factor variant E1a/E2/E3/E5; RE1-silencing transcription factor variant E1a/E2/E3/N3a/E4i; RE1-silencing transcription factor variant E1a/E2/E3/N3c/E4; RE1-silencing transcription factor variant E1a/E2/E4; RE1-silencing transcription factor variant E1a/E2k/E2i/E3/E4j; RE1-silencing transcription factor variant E1b/E2/E3/E5; RE1-silencing transcription factor variant E1b/E2/E3/N3b/E4i; RE1-silencing transcription factor variant E1b/E2/E3/N3c/E4; RE1-silencing transcription factor variant E1b/E2c/E2j/E3/E4; RE1-silencing transcription factor variant E1c/E2g/E3/E4; neural-restrictive silencer factor; neuron restrictive silencer factor; repressor binding to the X2 box

**Dilution**

WB~~1:1000  
E~~N/A

**Format**

Supplied at 0.5 mg/ml in Tris saline, 0.02% sodium azide, pH7.3 with 0.5% bovine serum albumin. Aliquot and store at -20°C. Minimize freezing and thawing.

**Immunogen**

Peptide with sequence C-PETPGAEDKGKSSK, from the internal region of the protein sequence according to NP\_005603.3.

**Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

## Precautions

Goat Anti-RE1-silencing transcription factor Antibody (internal region) is for research use only and not for use in diagnostic or therapeutic procedures.

## Goat Anti-RE1-silencing transcription factor Antibody (internal region) - 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:<a href="http://www.uniprot.org/citations/11741002" target="\_blank">11741002</a>, PubMed:<a href="http://www.uniprot.org/citations/11779185" target="\_blank">11779185</a>, PubMed:<a href="http://www.uniprot.org/citations/12399542" target="\_blank">12399542</a>, PubMed:<a href="http://www.uniprot.org/citations/26551668" target="\_blank">26551668</a>, PubMed:<a href="http://www.uniprot.org/citations/7697725" target="\_blank">7697725</a>, PubMed:<a href="http://www.uniprot.org/citations/7871435" target="\_blank">7871435</a>, PubMed:<a href="http://www.uniprot.org/citations/8568247" target="\_blank">8568247</a>). 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:<a href="http://www.uniprot.org/citations/10449787" target="\_blank">10449787</a>, PubMed:<a href="http://www.uniprot.org/citations/10734093" target="\_blank">10734093</a>). 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:<a href="http://www.uniprot.org/citations/19061646" target="\_blank">19061646</a>). Represses the expression of SRRM4 in non-neuronal 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:<a href="http://www.uniprot.org/citations/11779185" target="\_blank">11779185</a>). 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:<a href="http://www.uniprot.org/citations/21258371" target="\_blank">21258371</a>). 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:<a href="http://www.uniprot.org/citations/27531581" target="\_blank">27531581</a>). 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:<a href="http://www.uniprot.org/citations/24670762" target="\_blank">24670762</a>). 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:<a href="http://www.uniprot.org/citations/26053433" target="\_blank">26053433</a>).

### 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

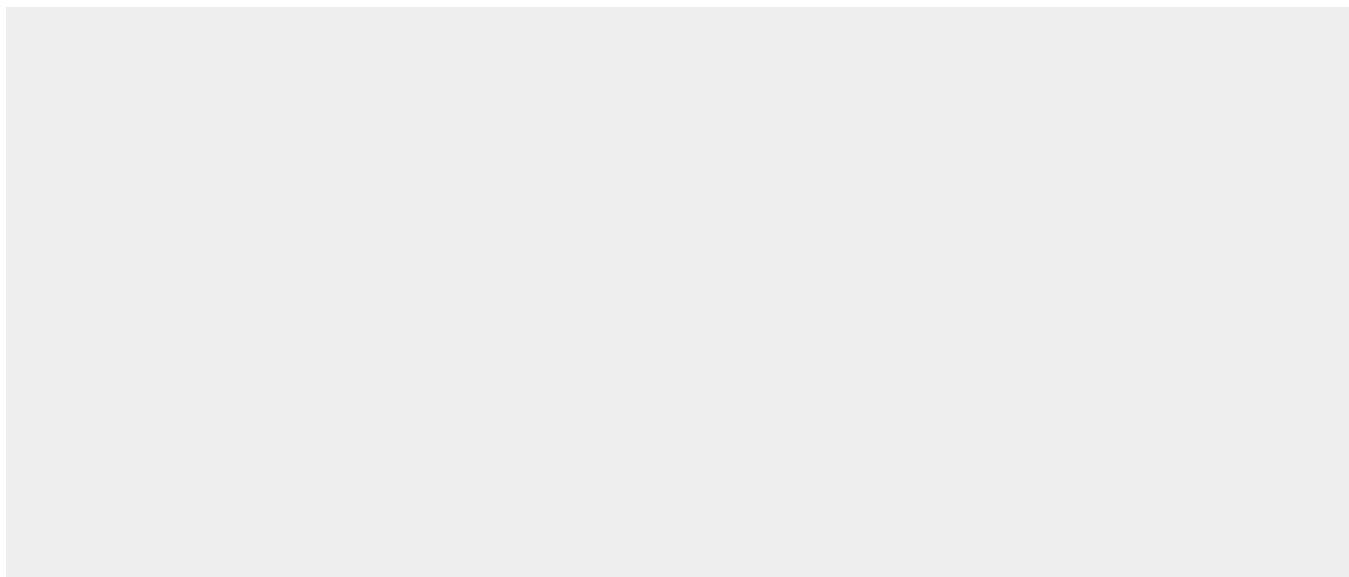
Expressed in neurons of the prefrontal cortex, in hippocampal pyramidal neurons, dentate gyrus granule neurons and cerebellar Purkinje and granule neurons (at protein level) (PubMed:24670762). Expressed in dopaminergic neurons of the substantia nigra (at protein level) (PubMed:30684677). Expressed in 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).

### Goat Anti-RE1-silencing transcription factor Antibody (internal region) - Protocols

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

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### Goat Anti-RE1-silencing transcription factor Antibody (internal region) - Images





AF4242a (0.3 µg/ml) staining of HEK293 (A) and HeLa (B) lysate (35 µg protein in RIPA buffer). Primary incubation was 1 hour. Detected by chemiluminescence.

**Goat Anti-RE1-silencing transcription factor Antibody (internal region) - References**

REST and stress resistance in ageing and Alzheimer's disease. Lu T, Aron L, Zullo J, Pan Y, Kim H, Chen Y, Yang TH, Kim HM, Drake D, Liu XS, Bennett DA, Colaiácovo MP, Yankner BA. *Nature* 2014 Mar 507 (7493): 448-54.