

# Anti-REST Antibody [JE32-25]

HA720081



<b>Product Type:</b>	Recombinant Rabbit monoclonal IgG, primary antibodies
<b>Species reactivity:</b>	Human
<b>Applications:</b>	WB, IF-Cell, IHC-P
<b>Molecular Wt:</b>	Predicted band size: 122 kDa
<b>Clone number:</b>	JE32-25

**Description:** 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, SIN3A and RCOR1, 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. Transcriptional repression by REST-CDYL via the recruitment of histone methyltransferase EHMT2 may be important in transformation suppression. 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. 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. 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. Thereby is involved in maintaining the quiescent state of adult neural stem cells and preventing premature differentiation into mature neurons.

**Immunogen:** Recombinant protein within Human REST aa 850-1000.

**Positive control:** HL-60 cell lysate, HUVEC cell lysate, human thyroid tissue, human seminoma tissue, SH-SY5Y.

**Subcellular location:** Nucleus, Cytoplasm.

**Database links:** SwissProt: Q13127 Human

**Recommended Dilutions:**

<b>WB</b>	1:500
<b>IF-Cell</b>	1:200
<b>IHC-P</b>	1:400

**Storage Buffer:** 1\*TBS (pH7.4), 0.05% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.

**Storage Instruction:** Store at +4°C after thawing. Aliquot store at -20°C. Avoid repeated freeze / thaw cycles.

**Purity:** Protein A affinity purified.

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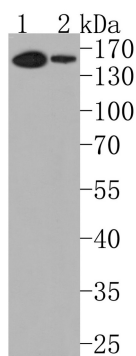
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## Images



**Fig1:** Western blot analysis of REST on different lysates. Proteins were transferred to a PVDF membrane and blocked with 5% BSA in PBS for 1 hour at room temperature. The primary antibody (HA720081, 1/500) was used in 5% BSA at room temperature for 2 hours. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1:200,000 dilution was used for 1 hour at room temperature.

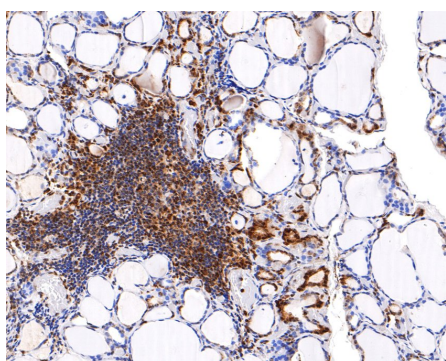
**Positive control:**

Lane 1: HL-60 cell lysate

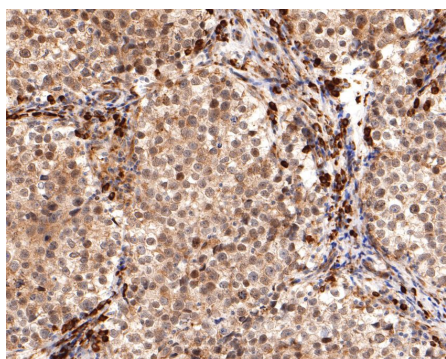
Lane 2: HUVEC cell lysate

Predicted band size: 122 kDa

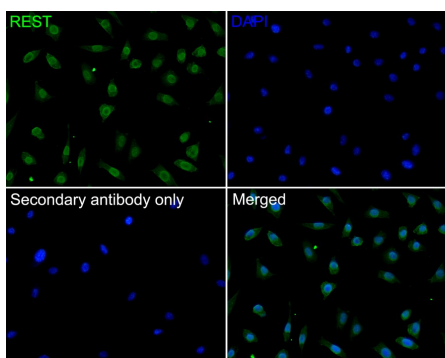
Observed band size: 150 kDa



**Fig2:** Immunohistochemical analysis of paraffin-embedded human thyroid tissue using anti-REST antibody. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) for 20 minutes. The tissues were blocked in 1% BSA for 30 minutes at room temperature, washed with ddH<sub>2</sub>O and PBS, and then probed with the primary antibody (HA720081, 1/400) for 30 minutes at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.



**Fig3:** Immunohistochemical analysis of paraffin-embedded human seminoma tissue using anti-REST antibody. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) for 20 minutes. The tissues were blocked in 1% BSA for 30 minutes at room temperature, washed with ddH<sub>2</sub>O and PBS, and then probed with the primary antibody (HA720081, 1/400) for 30 minutes at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.



**Fig4:** ICC staining of REST in SH-SY5Y cells (green). Formalin fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 10 minutes at room temperature and blocked with 10% negative goat serum for 15 minutes at room temperature. Cells were probed with the primary antibody (HA720081, 1/200) for 1 hour at room temperature, washed with PBS. Alexa Fluor®488 conjugate-Goat anti-Rabbit IgG was used as the secondary antibody at 1/1,000 dilution. The nuclear counter stain is DAPI (blue).

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**Note:** All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

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### Background References

1. Li H. et. al. The deficiency of NRSF/REST enhances the pro-inflammatory function of astrocytes in a model of Parkinson's disease. *Biochim Biophys Acta Mol Basis Dis.* 2020 Jan
2. Zhao Y. et. al. Brain REST/NRSF Is Not Only a Silent Repressor but Also an Active Protector. *Mol Neurobiol.* 2017 Jan

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