

Goat Anti-NONO / p54NRB Antibody
Peptide-affinity purified goat antibody
Catalog # AF1738a**Specification**

Goat Anti-NONO / p54NRB Antibody - Product Information

Application	WB, IHC, E
Primary Accession	Q15233
Other Accession	NP_031389 , 4841 , 53610 (mouse) , 317259 (rat)
Reactivity	Human, Mouse
Predicted	Rat, Dog
Host	Goat
Clonality	Polyclonal
Concentration	100ug/200ul
Isotype	IgG
Calculated MW	54232

Goat Anti-NONO / p54NRB Antibody - Additional Information**Gene ID** 4841**Other Names**

Non-POU domain-containing octamer-binding protein, NonO protein, 54 kDa nuclear RNA- and DNA-binding protein, 55 kDa nuclear protein, DNA-binding p52/p100 complex, 52 kDa subunit, NMT55, p54(nrb), p54nrb, NONO, NRB54

Dilution

WB~~1:1000
IHC~~1:100~500
E~~N/A

Format

0.5 mg IgG/ml in Tris saline (20mM Tris pH7.3, 150mM NaCl), 0.02% sodium azide, with 0.5% bovine serum albumin

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-NONO / p54NRB Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Goat Anti-NONO / p54NRB Antibody - Protein Information**Name** NONO {ECO:0000303|PubMed:9393982, ECO:0000312|HGNC:HGNC:7871}

Function

DNA- and RNA binding protein, involved in several nuclear processes (PubMed:11525732, PubMed:12403470, PubMed:26571461). Binds the conventional octamer sequence in double-stranded DNA (PubMed:11525732, PubMed:12403470, PubMed:26571461). Also binds single-stranded DNA and RNA at a site independent of the duplex site (PubMed:11525732, PubMed:12403470, PubMed:26571461). Involved in pre-mRNA splicing, probably as a heterodimer with SFPQ (PubMed:11525732, PubMed:12403470, PubMed:26571461). Interacts with U5 snRNA, probably by binding to a purine-rich sequence located on the 3' side of U5 snRNA stem 1b (PubMed:12403470). Together with PSPC1, required for the formation of nuclear paraspeckles (PubMed:22416126). The SFPQ-NONO heteromer associated with MATR3 may play a role in nuclear retention of defective RNAs (PubMed:11525732). The SFPQ-NONO heteromer may be involved in DNA unwinding by modulating the function of topoisomerase I/TOPI (PubMed:10858305). The SFPQ-NONO heteromer may be involved in DNA non-homologous end joining (NHEJ) required for double-strand break repair and V(D)J recombination and may stabilize paired DNA ends (PubMed:15590677). In vitro, the complex strongly stimulates DNA end joining, binds directly to the DNA substrates and cooperates with the Ku70/G22P1-Ku80/XRCC5 (Ku) dimer to establish a functional preligation complex (PubMed:15590677). NONO is involved in transcriptional regulation. The SFPQ-NONO-NR5A1 complex binds to the CYP17 promoter and regulates basal and cAMP-dependent transcriptional activity (PubMed:11897684). NONO binds to an enhancer element in long terminal repeats of endogenous intracisternal A particles (IAPs) and activates transcription (By similarity). Regulates the circadian clock by repressing the transcriptional activator activity of the CLOCK-BMAL1 heterodimer (By similarity). Important for the functional organization of GABAergic synapses (By similarity). Plays a specific and important role in the regulation of synaptic RNAs and GPHN/gephyrin scaffold structure, through the regulation of GABRA2 transcript (By similarity). Plays a key role during neuronal differentiation by recruiting TET1 to genomic loci and thereby regulating 5-hydroxymethylcytosine levels (By similarity). Plays a role in the regulation of DNA virus-mediated innate immune response by assembling into the HDP-RNP complex, a complex that serves as a platform for IRF3 phosphorylation and subsequent innate immune response activation through the cGAS-STING pathway (PubMed:28712728, PubMed:30270045). Promotes activation of the cGAS-STING pathway in response to HIV-2 infection: acts by interacting with HIV-2 Capsid protein p24, thereby promoting detection of viral DNA by CGAS, leading to CGAS-mediated immune activation (PubMed:30270045). In contrast, the weak interaction with HIV-1 Capsid protein p24 does not allow activation of the cGAS-STING pathway (PubMed:30270045).

Cellular Location

Nucleus. Nucleus, nucleolus. Nucleus speckle. Chromosome {ECO:0000250|UniProtKB:Q99K48}.

Note=Detected in punctate subnuclear structures often located adjacent to splicing speckles, called paraspeckles.

Tissue Location

Heart, brain, placenta, lung, liver, skeletal muscle, kidney and pancreas. Also found in a number of breast tumor cell lines.

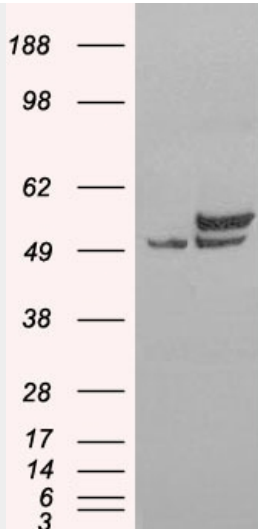
Goat Anti-NONO / p54NRB Antibody - Protocols

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

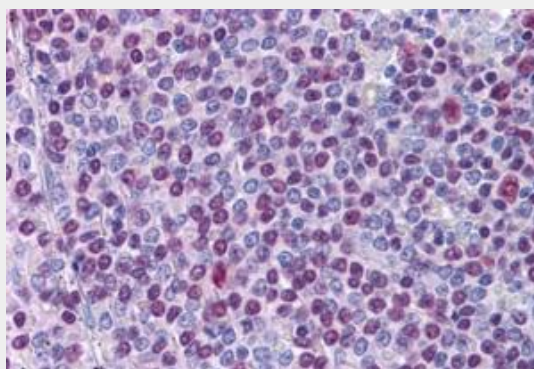
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

Goat Anti-NONO / p54NRB Antibody - Images

AF1738a (0.1 µg/ml) staining of mouse brain lysate (35 µg protein in RIPA buffer). Primary incubation was 1 hour. Detected by chemiluminescence.



HEK293 overexpressing Human NONO (RC206688) and probed with AF1738a (mock transfection in first lane), tested by Origene.



AF1738a (3.8 µg/ml) staining of paraffin embedded Human Spleen. Steamed antigen retrieval with citrate buffer pH 6, AP-staining.

Goat Anti-NONO / p54NRB Antibody - Background

This gene encodes an RNA-binding protein which plays various roles in the nucleus, including transcriptional regulation and RNA splicing. A rearrangement between this gene and the transcription factor E3 gene has been observed in papillary renal cell carcinoma. Alternatively spliced transcript variants have been described. Pseudogenes exist on Chromosomes 2 and 16.

Goat Anti-NONO / p54NRB Antibody - References

hnRNP M interacts with PSF and p54(nrb) and co-localizes within defined nuclear structures. Marko M, et al. *Exp Cell Res*, 2010 Feb 1. PMID 19874820.
The hepatitis delta virus RNA genome interacts with eEF1A1, p54(nrb), hnRNP-L, GAPDH and ASF/SF2. Sikora D, et al. *Virology*, 2009 Jul 20. PMID 19464723.
p54nrb is a transcriptional corepressor of the progesterone receptor that modulates transcription of the labor-associated gene, connexin 43 (Gja1). Dong X, et al. *Mol Endocrinol*, 2009 Aug. PMID 19423654.
An architectural role for a nuclear noncoding RNA: NEAT1 RNA is essential for the structure of paraspeckles. Clemson CM, et al. *Mol Cell*, 2009 Mar 27. PMID 19217333.
Prefrontal cortex shotgun proteome analysis reveals altered calcium homeostasis and immune system imbalance in schizophrenia. Martins-de-Souza D, et al. *Eur Arch Psychiatry Clin Neurosci*, 2009 Apr. PMID 19165527.