

# NONO / p54nrb Antibody

Rabbit mAb

Catalog # AP91917

## Product Information

<b>Application</b>	WB, IHC, IF, ICC, IHF
<b>Primary Accession</b>	<a href="#">Q15233</a>
<b>Reactivity</b>	Rat, Human, Mouse
<b>Clonality</b>	Monoclonal
<b>Other Names</b>	P54; NMT55; NRB54; P54NRB;
<b>Isotype</b>	Rabbit IgG
<b>Host</b>	Rabbit
<b>Calculated MW</b>	54232

## Additional Information

<b>Dilution</b>	WB 1:500~1:2000 IHC 1:50~1:200 ICC/IF 1:100~1:500
<b>Purification</b>	Affinity-chromatography
<b>Immunogen</b>	A synthesized peptide derived from human NONO / p54nrb
<b>Description</b>	DNA- and RNA binding protein, involved in several nuclear processes. Binds the conventional octamer sequence in double stranded DNA. Also binds single-stranded DNA and RNA at a site independent of the duplex site (By similarity). Involved in pre-mRNA splicing, probably as a heterodimer with SFPQ.
<b>Storage Condition and Buffer</b>	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.

## Protein Information

<b>Name</b>	NONO {ECO:0000303 PubMed:9393982, ECO:0000312 HGNC:HGNC:7871}
<b>Function</b>	DNA- and RNA binding protein, involved in several nuclear processes (PubMed: <a href="#">11525732</a> , PubMed: <a href="#">12403470</a> , PubMed: <a href="#">26571461</a> ). Binds the conventional octamer sequence in double-stranded DNA (PubMed: <a href="#">11525732</a> , PubMed: <a href="#">12403470</a> , PubMed: <a href="#">26571461</a> ). Also binds single- stranded DNA and RNA at a site independent of the duplex site (PubMed: <a href="#">11525732</a> , PubMed: <a href="#">12403470</a> , PubMed: <a href="#">26571461</a> ). Involved in pre- mRNA splicing, probably as a heterodimer with SFPQ (PubMed: <a href="#">11525732</a> , PubMed: <a href="#">12403470</a> , PubMed: <a href="#">26571461</a> ). Interacts with U5 snRNA, probably by binding to a purine-rich sequence located on the 3' side of U5 snRNA stem 1b (PubMed: <a href="#">12403470</a> ). Together with PSPC1, required for the formation of nuclear paraspeckles (PubMed: <a href="#">22416126</a> ). The SFPQ-NONO heteromer associated with MATR3 may play a role in nuclear retention of defective RNAs (PubMed: <a href="#">11525732</a> ). The SFPQ-NONO heteromer may be involved in DNA unwinding by modulating the function of topoisomerase I/TOP1

(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](#)).

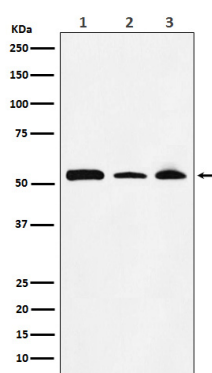
## Cellular Location

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.

## Images



Western blot analysis of NONO / p54nrb expression in (1) MOLT4 cell lysate; (2) NIH/3T3 cell lysate; (3) PC12 cell lysate.

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