

NONO Rabbit mAb

Catalog # AP75813

Product Information

Application	WB, IHC-P, IHC-F, ICC
Primary Accession	Q15233
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Monoclonal Antibody
Calculated MW	54232

Additional Information

Gene ID	4841
Other Names	NONO
Dilution	WB~~1/500-1/1000 IHC-P~~N/A IHC-F~~N/A ICC~~N/A
Format	50mM Tris-Glycine(pH 7.4), 0.15M NaCl, 40%Glycerol, 0.01% sodium azide and 0.05% BSA.
Storage	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.

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/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](#)).

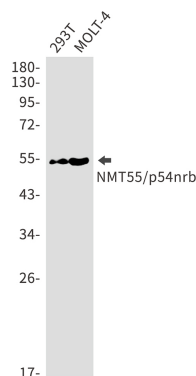
Cellular Location

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



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