## Anti-nmt55/p54nrb Picoband Antibody <br> Catalog \# ABO12561

## Specification

## Anti-nmt55/p54nrb Picoband Antibody - Product Information

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Application
Primary Accession
Host
Reactivity
Clonality
WB, IHC
Q15233
Format
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Rablit
Human, Mouse, Rat
Polyclonal
Lyophilized

```
Description
Rabbit IgG polyclonal antibody for Non-POU domain-containing octamer-binding protein(NONO) detection. Tested with WB, IHC-P in Human;Mouse;Rat.
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## Reconstitution

Add 0.2 ml of distilled water will yield a concentration of $500 \mathrm{ug} / \mathrm{ml}$.

## Anti-nmt55/p54nrb Picoband 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

Calculated MW
54232 MW KDa

## Application Details

Immunohistochemistry(Paraffin-embedded Section), 0.5-1 $\mu \mathrm{g} / \mathrm{ml}$, Human, Mouse, Rat, By Heat<br> <br>Western blot, 0.1-0.5 $\mu \mathrm{g} / \mathrm{ml}$, Human, Rat<br>

## Subcellular Localization

Nucleus. Nucleus, nucleolus. Nucleus speckle. Detected in punctate subnuclear structures often located adjacent to splicing speckles, called paraspeckles.

## Tissue Specificity

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

Protein Name
Non-POU domain-containing octamer-binding protein

## Contents

Each vial contains 5 mg BSA, $0.9 \mathrm{mg} \mathrm{NaCl}, 0.2 \mathrm{mg}$ Na2HPO4, 0.05 mg NaN3.
Immunogen

A synthetic peptide corresponding to a sequence at the N-terminus of human nmt55/p54nrb (1-35aa MQSNKTFNLEKQNHTPRKHHQHHHQQQHHQQQQQQ), identical to the related mouse and rat sequences.

## Purification

Immunogen affinity purified.
Cross Reactivity
No cross reactivity with other proteins.
Storage
At $-20^{\circ} \mathrm{C}$ for one year. After $r^{\circ}$ Constitution, at $4^{\circ} \mathrm{C}$ for one month. It ${ }^{\circ} \mathrm{Can}$ also be aliquotted and stored frozen at $-20^{\circ} \mathrm{C}$ for a longer time.Avoid repeated freezing and thawing.

## Anti-nmt55/p54nrb Picoband 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:<a
href="http://www.uniprot.org/citations/11525732" target="_blank">11525732</a>, PubMed:<a
href="http://www.uniprot.org/citations/12403470" target="_blank">12403470</a>, PubMed:<a href="http://www.uniprot.org/citations/26571461" target="_blank">26571461</a>). Binds the conventional octamer sequence in double-stranded DNA (PūbMed:<a
href="http://www.uniprot.org/citations/11525732" target="_blank">11525732</a>, PubMed:<a href="http://www.uniprot.org/citations/12403470" target="_blank">12403470</a>, PubMed:<a href="http://www.uniprot.org/citations/26571461" target="_blank">26571461</a>). Also binds single- stranded DNA and RNA at a site independent of the duplex site (PubMed:<a
href="http://www.uniprot.org/citations/11525732" target="_blank">11525732</a>, PubMed:<a href="http://www.uniprot.org/citations/12403470" target="-blank">12403470</a>, PubMed:<a href="http://www.uniprot.org/citations/26571461" target="_blank">26571461</a>). Involved in pre- mRNA splicing, probably as a heterodimer with SFPQ (PubMed:<a
href="http://www.uniprot.org/citations/11525732" target="_blank">11525732</a>, PubMed:<a href="http://www.uniprot.org/citations/12403470" target="_blank">12403470</a>, PubMed:<a href="http://www.uniprot.org/citations/26571461" target="_blank">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="http://www.uniprot.org/citations/12403470"
target="_blank">12403470</a>). Together with PSPC1, required for the formation of nuclear paraspeckles (PubMed:<a href="http://www.uniprot.org/citations/22416126"
target="_blank">22416126</a>). The SFPQ-NONO heteromer associated with MATR3 may play a role in nūclear retention of defective RNAs (PubMed:<a
href="http://www.uniprot.org/citations/11525732" target="_blank">11525732</a>). The
SFPQ-NONO heteromer may be involved in DNA unwinding by modulating the function of topoisomerase I/TOP1 (PubMed:<a href="http://www.uniprot.org/citations/10858305" target="_blank">10858305</a>). 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:<a href="http://www.uniprot.org/citations/15590677" target="_blank">15590677</a>). 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:<a href="http://www.uniprot.org/citations/15590677" target="_blank">15590677</a>). 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:<a href="http://www.uniprot.org/citations/11897684" target="_blank">11897684</a>). 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:<a href="http://www.uniprot.org/citations/28712728" target="_blank">28712728</a>, PubMed:<a href="http://www.uniprot.org/citations/30270045" target="_blank">30270045</a>). 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 inmmune activation (PubMed:<a href="http://www.uniprot.org/citations/30270045" target="_blank">30270045</a>). In contrast, the weak interaction with HIV-1 Capsid protein p24 does not allow activation of the cGAS-STING pathway (PubMed:<a
href="http://www.uniprot.org/citations/30270045" target="_blank">30270045</a>).

## 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.

## Anti-nmt55/p54nrb Picoband 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 Cytomety
- Cell Culture

Anti-nmt55/p54nrb Picoband Antibody - Images

| 130KD - |
| :---: |
| 100KD- |
| 70KD - |
| $55 \mathrm{KD}=$ |
| 35KD- |
| $25 \mathrm{KD}=$ |
| 15KD - |

Western blot analysis of nmt55/p54nrb expression in rat brain extract (lane 1), human placenta extract (lane 2) and PANC whole cell lysates (lane 3). nmt55/p54nrb at 60KD was detected using rabbit anti-FBXL4 Antigen Affinity purified polyclonal antibody (Catalog \# ABO12561) at0.5 ?? $\mathrm{g} / \mathrm{mL}$. The blot was developed using chemiluminescence (ECL) method .

nmt55/p54nrb was detected in paraffin-embedded sections of mouse brain tissues using rabbit anti- nmt55/p54nrb Antigen Affinity purified polyclonal antibody (Catalog \# ABO12561) at 1 $\hat{1} 1 / 4 \mathrm{~g} / \mathrm{mL}$. The immunohistochemical section was developed using SABC method.

nmt55/p54nrb was detected in paraffin-embedded sections of rat intestine tissues using rabbit anti- nmt55/p54nrb Antigen Affinity purified polyclonal antibody (Catalog \# ABO12561) at 1 $11 / 4 \mathrm{~g} / \mathrm{mL}$. The immunohistochemical section was developed using SABC method.

nmt55/p54nrb was detected in paraffin-embedded sections of human intestinal cancer tissues using rabbit anti- nmt55/p54nrb Antigen Affinity purified polyclonal antibody (Catalog \# ABO12561) at 1 Î¼g/mL. The immunohistochemical section was developed using SABC method.

## Anti-nmt55/p54nrb Picoband Antibody - Background

Non-POU domain-containing octamer-binding proteinÂ is aÂ proteinÂ that in humans is encoded by theÂ NONO gene. 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.Â

