

# **NMT55 Polyclonal Antibody**

Purified Rabbit Polyclonal Antibody (Pab) Catalog # AP57468

#### **Specification**

# **NMT55 Polyclonal Antibody - Product Information**

Application WB, IHC-P, IHC-F, IF, ICC, E

Primary Accession <u>Q15233</u>

Reactivity
Host
Clonality
Calculated MW
Physical State

Rat, Pig, Dog, Bovine
Rabbit
Polyclonal
S4 KDa
Liquid

Immunogen KLH conjugated synthetic peptide derived

from human NMT55

Epitope Specificity 21-120/471

lsotype IgG

Purity
affinity purified by Protein A

Buffer 0.01M TBS (pH7.4) with 1% BSA, 0.02%

Proclin300 and 50% Glycerol.

SUBCELLULAR LOCATION Nucleus.

SIMILARITY Contains 2 RRM (RNA recognition motif)

domains.

DISEASE Note=A chromosomal aberration involving

NONO may be a cause of papillary renal cell carcinoma (PRCC). Translocation

t(X;X)(p11.2;q13.1) with TFE3.

Important Note This product as supplied is intended for

research use only, not for use in human, therapeutic or diagnostic applications.

#### **Background Descriptions**

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. [provided by RefSeq, Feb 2009]

#### NMT55 Polyclonal 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

### **Target/Specificity**



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

#### **Dilution**

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 < span class = "dilution_WB">WB~~1:1000 < /span> < br \> < span class = "dilution_IHC-P">IHC-P~~N/A < /span> < br \> < span class = "dilution_IHC-F">IHC-F~~N/A < /span> < br \> < span class = "dilution_IF">IF~~1:50~200 < /span> < br \> < span class = "dilution_ICC">ICC~~N/A < /span> < br \> < span class = "dilution_E">E~~N/A < /span> < br \> < span class = "dilution_E">E~~N/A < /span> < br \> < span class = "dilution_E">E~~N/A < /span> < br \> < span class = "dilution_E">E~~N/A < /span> < br \> < span class = "dilution_E">E~~N/A < /span> < br \> < span class = "dilution_E">E~~N/A < /span> < br \> < span class = "dilution_E">E~~N/A < /span> < span class = "dilution_E">E~~N/A < /span < span class = "dilution_E">E~~N/A < span < span
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# **Storage**

Store at -20  $^{\circ}$ C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4  $^{\circ}$ C.

### **NMT55 Polyclonal Antibody - Protein Information**

Name NONO {ECO:0000303|PubMed:9393982, ECO:0000312|HGNC:HGNC:7871}

#### **Function**

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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 (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>). 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 nuclear 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 (NHEI) required for double-strand break repair and V(D)I
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
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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.

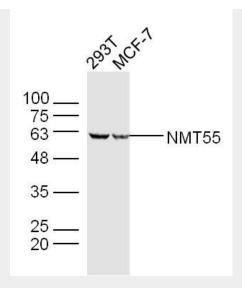
# NMT55 Polyclonal Antibody - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- <u>Immunoprecipitation</u>
- Flow Cytomety
- Cell Culture

### NMT55 Polyclonal Antibody - Images





# Sample:

293T (human)Cell Lysate at 40 ug MCF-7 (human) Lysate at 40 ug

Primary: Anti-alpha smooth muscle Actin (bs-10196R) at 1/300 dilution Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution

Predicted band size: 54 kD Observed band size: 60 kD