# Data Sheet (Cat.No.TMAH-00819)

## Anti-NONO Antibody (1P701)

### Product Details

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| Ig Type: | Rabbit IgG |
| Reactivity: | Human |
| Conjugation: | Unconjugated |
| Clone: | 1P701 |
| Purification: | Affinity-chromatography |

### Applications

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| Verified Activity: | 1. Western Blot<br>-Positive WB detected in: 293 whole cell lysate, Hela whole cell lysate, HepG2 whole cell lysate, Ntera-2 whole cell lysate<br>-All lanes: NONO Antibody at 1:1000<br>-Secondary: Goat polyclonal to rabbit IgG at 1/50000 dilution<br>-Predicted band size: 55, 44 kDa<br>-Observed band size: 55 kDa<br>2. IHC image of TMAH-00819 diluted at 1:100 and staining in paraffin-embedded human breast cancer performed on a Leica BondTM system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10% normal goat serum 30min at RT. Then primary antibody (1% BSA) was incubated at 4°C overnight. The primary is detected by a Goat anti-rabbit IgG polymer labeled by HRP and visualized using 0.05% DAB.<br>3. IHC image of TMAH-00819 diluted at 1:100 and staining in paraffin-embedded human brain tissue performed on a Leica BondTM system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10% normal goat serum 30min at RT. Then primary antibody (1% BSA) was incubated at 4°C overnight. The primary is detected by a Goat anti-rabbit IgG polymer labeled by HRP and visualized using 0.05% DAB.<br>4. Immunofluorescence staining of Hela Cells with TMAH-00819 at 1:50, counter-stained with DAPI. The cells were fixed in 4% formaldehyde, permeated by 0.2% TritonX-100, and blocked in 10% normal Goat Serum. The cells were then incubated with the antibody overnight at 4°C. Nuclear DNA was labeled in blue with DAPI. The secondary antibody was FITC-conjugated AffiniPure Goat Anti-Rabbit IgG (H+L). |
| Application: | ELISA,IF,IHC,WB |
| Recommended | WB:1:500-1:5000; IHC:1:50-1:200; IF:1:20-1:200. |

### Properties

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| Stability & Storage: | Store at -20°C or -80°C for 12 months. Avoid repeated freeze-thaw cycles. |
| Shipping: | Shipping with blue ice. |

## Antigen Details

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| Immunogen: | A synthetic peptide: Human NONO / p54nrb |
| Antigen Species: | Human |
| Gene ID: | 4841 |
| Uniprot ID: | Q15233 |
| Synonyms: | DNA-binding p52/p100 complex;NMT55;NonO protein;NRB54;52 kDa subunit;55 kDa nuclear protein;54 kDa nuclear RNA- and DNA-binding protein;p54nrb;Non-POU domain-containing octamer-binding protein |
| Biology Area: | Epigenetics and Nuclear Signaling |

## Research Background

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. Involved in pre-mRNA splicing, probably as a heterodimer with SFPQ. Interacts with U5 snRNA, probably by binding to a purine-rich sequence located on the 3' side of U5 snRNA stem 1b. Together with PSPC1, required for the formation of nuclear paraspeckles. The SFPQ-NONO heteromer associated with MATR3 may play a role in nuclear retention of defective RNAs. The SFPQ-NONO heteromer may be involved in DNA unwinding by modulating the function of topoisomerase I/TOP1. 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. 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. NONO is involved in transcriptional regulation. The SFPQ-NONO-NR5A1 complex binds to the CYP17 promoter and regulates basal and cAMP-dependent transcriptional activity. NONO binds to an enhancer element in long terminal repeats of endogenous intracisternal A particles (IAPs) and activates transcription. Regulates the circadian clock by repressing the transcriptional activator activity of the CLOCK-ARNTL/BMAL1 heterodimer. Important for the functional organization of GABAergic synapses. Plays a specific and important role in the regulation of synaptic RNAs and GPHN/gephyrin scaffold structure, through the regulation of GABRA2 transcript. Plays a key role during neuronal differentiation by recruiting TET1 to genomic loci and thereby regulating 5-hydroxymethylcytosine levels. 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.



Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481