

# Product Datasheet

## hnRNP M1-M4 Antibody (1D8) NB200-314

Unit Size: 0.2 ml

Aliquot and store at -20C or -80C. Avoid freeze-thaw cycles.

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**NB200-314**

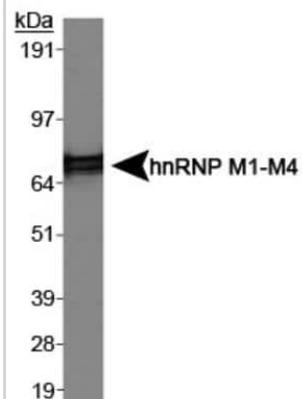
hnRNP M1-M4 Antibody (1D8)

<b>Product Information</b>	
<b>Unit Size</b>	0.2 ml
<b>Concentration</b>	This product is unpurified. The exact concentration of antibody is not quantifiable.
<b>Storage</b>	Aliquot and store at -20C or -80C. Avoid freeze-thaw cycles.
<b>Clonality</b>	Monoclonal
<b>Clone</b>	1D8
<b>Preservative</b>	0.1% Sodium Azide
<b>Isotype</b>	IgG1 Kappa
<b>Purity</b>	Unpurified
<b>Buffer</b>	Ascites
<b>Product Description</b>	
<b>Host</b>	Mouse
<b>Gene ID</b>	4670
<b>Gene Symbol</b>	HNRNPM
<b>Species</b>	Human, Mouse, Rat, Porcine, Bovine, Rabbit
<b>Reactivity Notes</b>	A weak reactivity to mouse has been observed. Mouse reactivity reported in scientific literature (PMID:32931733)
<b>Specificity/Sensitivity</b>	NB200-314 is specific for all four M proteins of hnRNP (M1, M2, M3 and M4).
<b>Immunogen</b>	M19 fusion protein containing full-length human protein. [UniProt# P52272]
<b>Product Application Details</b>	
<b>Applications</b>	Western Blot, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Frozen, Immunohistochemistry-Paraffin, Immunoprecipitation
<b>Recommended Dilutions</b>	Western Blot 1:500, Immunohistochemistry 1:200 - 1:500, Immunocytochemistry/ Immunofluorescence 1:10-1:500, Immunoprecipitation 1:10-1:500, Immunohistochemistry-Paraffin 1:200, Immunohistochemistry-Frozen 1:10-1:500

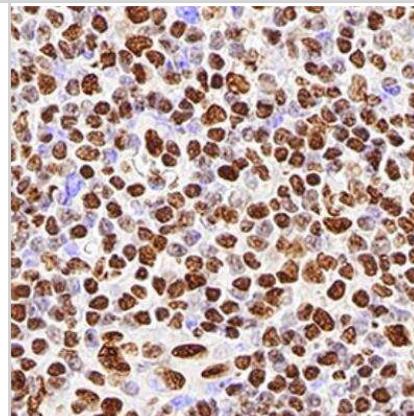


## Images

Western Blot: hnRNP M1-M4 Antibody (1D8) [NB200-314] - Analysis of hnRNP M1-M4 in HeLa cell lysates using NB200-314.



Immunohistochemistry-Paraffin: hnRNP M1-M4 Antibody (1D8) [NB200-314] - Analysis of formalin fixed paraffin-embedded (FFPE) human tonsil using hnRNP M1-M4 (1D8) antibody at 1:500 on a Bond Rx autostainer (Leica Biosystems). The assay involved 20 minutes of heat induced antigen retrieval (HIER) using 10mM sodium citrate buffer (pH 6.0) and endogenous peroxidase quenching with peroxide block. The sections were incubated with primary antibody for 30 minutes with DAB was used for signal development followed by counterstaining with hematoxylin. Nuclear riboprotein staining was observed.



## Publications

Victoria O. Shender, Ksenia S. Anufrieva, Polina V. Shnaider, Georgij P. Arapidi, Marat S. Pavlyukov, Olga M. Ivanova, Irina K. Malyants, Grigory A. Stepanov, Evgenii Zhuravlev, Rustam H. Ziganshin, Ivan O. Butenko, Olga N. Bukato, Ksenia M. Klimina, Vladimir A. Veselovsky, Tatiana V. Grigorieva, Sergey Y. Malanin, Olga I. Aleshikova, Andrey V. Slonov, Nataliya A. Babaeva, Lev A. Ashrafyan, Elena Khomyakova, Evgeniy G. Evtushenko, Maria M. Lukina, Zixiang Wang, Artemiy S. Silantiev, Anna A. Nushtaeva, Daria D. Kharlampieva, Vassili N. Lazarev, Arseniy I. Lashkin, Lorine K. Arzumanyan, Irina Yu. Petrushanko, Alexander A. Makarov, Olga S. Lebedeva, Alexandra N. Bogomazova, Maria A. Lagarkova, Vadim M. Govorun Therapy-induced secretion of spliceosomal components mediates pro-survival crosstalk between ovarian cancer cells *Nature Communications* 2024-06-19 [PMID: 38898005]

Andrey Damianov, Chia-Ho Lin, Jeffrey Huang, Lin Zhou, Yasaman Jami-Alahmadi, Parham Peyda, James Wohlschlegel, Douglas L Black The splicing regulators RBM5 and RBM10 are subunits of the U2 snRNP engaged with intron branch sites on chromatin. *Molecular cell* 2024-04-22 [PMID: 38537639]

Birladeanu A, Rogalska M, Potiri M, Papadaki V The Scaffold Protein IQGAP1 Links Heat-Induced Stress Signals to Alternative Splicing Regulation in Gastric Cancer Cells *Oncogene* 2021-07-23 [PMID: 34294847]

Timchenko L T, Miller J W et al. Identification of a (CUG)<sub>n</sub> triplet repeat RNA-binding protein and its expression in myotonic dystrophy. *Nucleic Acids Res* 1996-11-15 [PMID: 8948631] (WB, Mouse)

Zhao Q, Liu J, Deng H et al. Targeting Mitochondria-Located circRNA SCAR Alleviates NASH via Reducing mROS Output *Cell* 2020-09-05 [PMID: 32931733] (WB, Mouse, Human)

Birladeanu A, Rogalska M, Potiri M et al. The IQGAP1-hnRNPM interaction links tumour-promoting alternative splicing to heat-induced signals *bioRxiv* 2020-05-14 (ICC/IF, PLA, Human)

Birladeanu A, Rogalska M, Potiri M, Papadaki V Nuclear IQGAP1 promotes gastric cancer cell growth by altering the splicing of a cell-cycle regulon in co-operation with hnRNPM *bioRxiv* 2020-01-01 (Func, Mouse)

Lleres D, Denegri M, Biggiogera M, Ajuh P, Lamond AI. Direct interaction between hnRNP-M and CDC5L/PLRG1 proteins affects alternative splice site choice. *EMBO Rep*;11(6):445-51. 2010-06-01 [PMID: 20467437] (WB, Human)

Vassileva MT, Matunis MJ. SUMO modification of heterogeneous nuclear ribonucleoproteins. *Mol Cell Biol*;24(9):3623-32. 2004-05-01 [PMID: 15082759] (IP, Human)

Kafasla P, Patrino-Georgoula M, Guialis A. The 72/74-kDa polypeptides of the 70-110 S large heterogeneous nuclear ribonucleoprotein complex (LH-nRNP) represent a discrete subset of the hnRNP M protein family. *Biochem J*;350 Pt 2:495-503. 2000-09-01 [PMID: 10947964] (WB, Rat)

Datar KV, Dreyfuss G, Swanson MS. The human hnRNP M proteins: identification of a methionine/arginine-rich repeat motif in ribonucleoproteins. *Nucleic Acids Res*;21(3):439-46. 1993 Feb 11. [PMID: 8441656] (WB, Human, Rabbit, Mouse)

Helman GL, Hauswirth WW. DNA helicase from mammalian mitochondria. *Proc Natl Acad Sci U S A*;89(18):8562-6. 1992-09-15 [PMID: 1326759] (WB, Bovine)

## Procedures

### Western Blot protocol for hnRNP M1-M4 Antibody (NB200-314)

hnRNP M1-M4 Antibody (1D8):

Western Blot Procedure Guide for NB 200-314 Monoclonal Anti-RNP M1-M4

- 1) Wet Nitrocellulose membrane with PBS + NP40 [PN].
- 2) Pour off PN.
- 3) Dilute anti-RNP M1-M4 (catalog# NB 200-314) in 5%NFDM + NP40.
- 4) Incubate the primary antibody with the membrane for 1 hour, at room temperature (RT), gently rocking.
- 5) Wash 1x with PN for 10 minutes. Wash 2x with PN for 5 minutes, each.
- 6) Dilute anti-mouse-HRP (Amersham) in 5%NFDM + NP40 at 1:5,000.
- 7) Incubate the secondary antibody with the membrane for 45 minutes, at RT, gently rocking.
- 8) Wash 1x with PN for 10 minutes. Wash 2x with PN for 5 minutes, each.
- 9) Wash 1x with PBS for 5 minutes.
- 10) Develop using Amersham ECL components.

**\*\*NOTE:** HeLa nuclear cell extracts can be used as a positive control for this antibody.

### Immunocytochemistry/Immunofluorescence protocol for hnRNP M1-M4 Antibody (NB200-314)

hnRNP M1-M4 Antibody (1D8):

Day 1 Cell Growth

1. Grow cells directly on a 10-well microscope slide (Cel-Line Associates, 10-well, 7MM, HTC autoclavable slides, Catalog# 10-7) in 15 cm cell culture plates, overnight.
  - The flatter the cells, the better the IF.
  - HeLa JW36 cells are a better positive control than HeLa S3 cells.

Day 2 Fixation

2. Rinse slides 3x with PBS (swirl ~200 ml into a 250 ml beaker).
3. Fix slide in Coplin jar for 30 minutes at RT, in 2% formaldehyde (MeOH-free, 10% ultrapure, EM grade).
  - Formaldehyde is diluted in PBS.
4. Rinse slides 3x with PBS (swirl 200 ml into a 250 ml beaker).
5. Incubate for 3 minutes in acetone at 20C (acetone stock should be kept at 20 degrees C).
6. Rinse slides 3x with PBS (swirl 200 ml into a 250 ml beaker).
7. Store fixed slides up to 1 week in PBS + 0.2% azide, in Coplin jar.

Same Day Immunofluorescence

8. Rinse slide 1x in PBS.
9. Dry with Kimwipe (or equivalent) and wipe around well with a cotton-tipped applicator.

**\*\*This drying procedure is repeated at each subsequent step, but be careful not to dry out the well**

10. Add 10 ul of 3% BSA in PBS, per well, and pre-incubate for 15 minutes at RT in a humidifier chamber.
11. Wash slide 1x in PBS, add 10 ul of anti-RNP M1-M4 and incubate 60 minutes in chamber at RT.
12. Rinse slides 3x with PBS.
13. Add 10 ul of appropriate secondary antibody and incubate for 30 minutes at RT.
14. Rinse slides 3x in PBS.
15. Mount slides with IF mounting media and seal with clear nail polish.
16. Slides can be stored up to 1 week at 20C, in Revco box.



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### **Products Related to NB200-314**

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NBL1-11650	hnRNP M Overexpression Lysate
HAF007	Goat anti-Mouse IgG Secondary Antibody [HRP]
NB720-B	Rabbit anti-Mouse IgG (H+L) Secondary Antibody [Biotin]
NBP1-43319-0.5mg	Mouse IgG1 Kappa Isotype Control (P3.6.2.8.1)

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### **Limitations**

This product is for research use only and is not approved for use in humans or in clinical diagnosis. Primary Antibodies are guaranteed for 1 year from date of receipt.

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