SANTA CRUZ BIOTECHNOLOGY, INC.

# hnRNP M3/4 (2A6): sc-20001

## BACKGROUND

Heterogeneous nuclear ribonucleoproteins (hnRNPs) constitute a set of polypeptides that contribute to mRNA transcription, pre-mRNA processing as well as mature mRNA transport to the cytoplasm and translation. They also bind heterogeneous nuclear RNA (hnRNA), which are the transcripts produced by RNA polymerase II. There are approximately 20 known hnRNP proteins, and their complexes are the major constituents of the spliceosome. The majority of hnRNP proteins components are localized to the nucleus; however some shuttle between the nucleus and the cytoplasm, such as hnRNP E1 and E2. hnRNP E1 may function in the cytoplasm as a translational regulatory protein, while hnRNP E2 stabilizes mRNA to enhance polioviral mRNA translation. hnRNP M is involved in pre-mRNA splicing and in stress-induced transient splicing arrest.

## CHROMOSOMAL LOCATION

Genetic locus: HNRNPM (human) mapping to 19p13.2; Hnrnpm (mouse) mapping to 17 B1.

## SOURCE

hnRNP M3/4 (2A6) is a mouse monoclonal antibody raised against fusion protein consisting of entire M4 protein sequence.

## PRODUCT

Each vial contains 200 µg $IgG_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

hnRNP M3/4 (2A6) is recommended for detection of hnRNP M3 and hnRNP M4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

hnRNP M3/4 (2A6) is also recommended for detection of hnRNP M3 and hnRNP M4 in additional species, including rabbit, bovine and porcine.

Suitable for use as control antibody for hnRNP M siRNA (h): sc-38286, hnRNP M siRNA (m): sc-38287, hnRNP M shRNA Plasmid (h): sc-38286-SH, hnRNP M shRNA Plasmid (m): sc-38287-SH, hnRNP M shRNA (h) Lentiviral Particles: sc-38286-V and hnRNP M shRNA (m) Lentiviral Particles: sc-38287-V.

Molecular Weight of hnRNP M3: 72 kDa.

Molecular Weight of hnRNP M4: 74 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, PC-12 cell lysate: sc-2250 or HeLa whole cell lysate: sc-2200.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

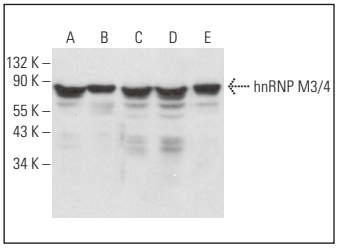
## PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

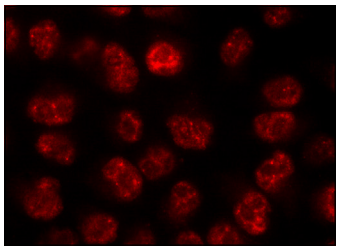
## STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## DATA




hnRNP M3/4 (2A6): sc-20001. Western blot analysis of hnRNP M3/4 expression in HeLa (**A**), Jurkat (**B**), PC-12 (**C**), C6 (**D**) and RAW 264.7 (**E**) whole cell lysates.



hnRNP M3/4 (2A6): sc-20001. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization.

## SELECT PRODUCT CITATIONS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2. Marko, M., et al. 2010. hnRNP M interacts with PSF and $p54^{nrb}$ and co-localizes within defined nuclear structures. Exp. Cell Res. 316: 390-400.
3. Bajenova, O., et al. 2014. Carcinoembryonic antigen promotes colorectal cancer progression by targeting adherens junction complexes. Exp. Cell Res. 324: 115-123.
4. Wang, H., et al. 2017. Embryonic lethal abnormal vision proteins and adenine and uridine-rich element mRNAs after global cerebral ischemia and reperfusion in the rat. J. Cereb. Blood Flow Metab. 37: 1494-1507.
5. Xiao, R., et al. 2019. Pervasive chromatin-RNA binding protein interactions enable RNA-based regulation of transcription. Cell 178: 107-121.e18.
6. Ramesh, N., et al. 2020. RNA-recognition motif in Matrin-3 mediates neurodegeneration through interaction with hnRNPM. Acta Neuropathol. Commun. 8: 138.
7. Zhou, D., et al. 2021. RBFOX2 alters splicing outcome in distinct binding modes with multiple protein partners. Nucleic Acids Res. 49: 8370-8383.
8. Huang, L., et al. 2022. PRMT5 activates AKT via methylation to promote tumor metastasis. Nat. Commun. 13: 3955.
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10. Huang, L., et al. 2024. PRMT5 orchestrates EGFR and AKT networks to activate NFκB and promote EMT. bioRxiv. E-published.