

mrnp41 (D-18): sc-74891

BACKGROUND

Mrnp41 (mRNA-binding protein, 41-KD), also known as Rae1 protein homolog and mRNA export factor, is a 368 amino acid protein that binds mRNA and is involved in nucleocytoplasmic transport. Though characterized in both the nucleus and cytoplasm, mrnp41 is primarily localized to the nuclear pore complex in the nuclear envelope. Mutations in mrnp41 may result in the accumulation of poly(A)-containing mRNA in the nucleus, further supporting the role of mrnp41 as a primary nuclear exporter of mRNA. Along with Nup98, mrnp41 has been shown to regulate E-cadherin, an activating subunit of the anaphase-promoting complex complex, which results in the prevention of securin degradation, therefore suggesting that mrnp41 may play a potential role in maintaining euploidy. Also, during mitosis, both mrnp41 and NuMA have been shown to be required for bipolar spindle formation.

REFERENCES

1. Bharathi, A., et al. 1997. The human RAE1 gene is a functional homologue of *Schizosaccharomyces pombe* rae1 gene involved in nuclear export of Poly(A)⁺ RNA. *Gene* 198: 251-258.
2. Kraemer, D., et al. 1997. mRNA binding protein mrnp 41 localizes to both nucleus and cytoplasm. *Proc. Natl. Acad. Sci. USA* 94: 9119-9124.
3. Kraemer, D., et al. 2001. Mrnp41 (Rae1p) associates with microtubules in HeLa cells and in neurons. *Eur. J. Cell Biol.* 80: 733-740.
4. Zenklusen, D., et al. 2001. Nuclear export of mRNA. *FEBS Lett.* 498: 150-156.
5. Jeganathan, K.B., et al. 2005. The Rae1-Nup98 complex prevents aneuploidy by inhibiting securin degradation. *Nature* 438: 1036-1039.
6. Wong, R.W., et al. 2006. Rae1 interaction with NuMA is required for bipolar spindle formation. *Proc. Natl. Acad. Sci. USA* 103: 19783-19787.
7. Baker, D.J., et al. 2007. Mitotic regulation of the anaphase-promoting complex. *Cell. Mol. Life Sci.* 64: 589-600.

CHROMOSOMAL LOCATION

Genetic locus: RAE1 (human) mapping to 20q13.31; Rae1 (mouse) mapping to 2 H3.

SOURCE

mrnp41 (D-18) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of mrnp41 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-74891 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

mrnp41 (D-18) is recommended for detection of mrnp41 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

mrnp41 (D-18) is also recommended for detection of mrnp41 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for mrnp41 siRNA (h): sc-75825, mrnp41 siRNA (m): sc-75826, mrnp41 shRNA Plasmid (h): sc-75825-SH, mrnp41 shRNA Plasmid (m): sc-75826-SH, mrnp41 shRNA (h) Lentiviral Particles: sc-75825-V and mrnp41 shRNA (m) Lentiviral Particles: sc-75826-V.

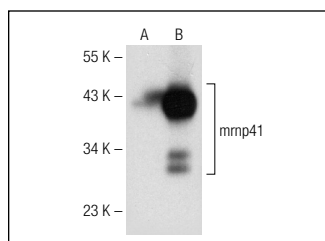
Molecular Weight of mrnp41: 43 kDa.

Positive Controls: mrnp41 (h): 293T Lysate: sc-111781.

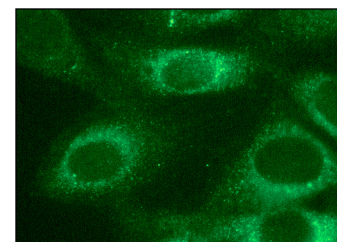
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



mrnp41 (D-18): sc-74891. Western blot analysis of mrnp41 expression in non-transfected: sc-117752 (A) and human mrnp41 transfected: sc-111781 (B) 293T whole cell lysates.



mrnp41 (D-18): sc-74891 Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing perinuclear localization.

RESEARCH USE

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

MONOS
Satisfaction
Guaranteed

Try **mrnp41 (G-3): sc-393625** or **mrnp41 (A-9): sc-393624**, our highly recommended monoclonal alternatives to mrnp41 (D-18).