

# hnRNP R (D-14): sc-16540

## BACKGROUND

Heterogeneous nuclear ribonucleoproteins (hnRNPs) constitute a set of polypeptides that contribute to mRNA transcription and pre-mRNA processing, as well as mature mRNA transport to the cytoplasm and translation. They also bind heterogeneous nuclear RNA (hnRNA), which is the transcript 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 protein components are localized to the nucleus; however, some shuttle between the nucleus and the cytoplasm. Two abundant and ubiquitously expressed members of the hnRNP family are hnRNP D0 and hnRNP R. Specifically, the hnRNP D0 protein contains two RNA-binding domains (RBDs), which bind to both RNA and DNA sequences. hnRNP D0 also possesses a transactivator domain and is involved in transcriptional regulation.

## REFERENCES

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3. Kajita, Y., et al. 1995. The UUAG-specific RNA-binding protein, heterogeneous nuclear ribonucleoprotein D0. Common modular structure and binding properties of the 2xRBD-Gly family. *J. Biol. Chem.* 270: 22167-22175.
4. Hassfeld, W., et al. 1998. Molecular definition of heterogeneous nuclear ribonucleoprotein R (hnRNP R) using autoimmune antibody: immunological relationship with hnRNP P. *Nucleic Acids Res.* 26: 439-445.
5. Nagata, T., et al. 1999. Structure and interactions with RNA of the N-terminal UUAG-specific RNA-binding domain of hnRNP D0. *J. Mol. Biol.* 287: 221-237.
6. Kim, J.H., et al. 2000. Protein-protein interaction among hnRNPs shuttling between nucleus and cytoplasm. *J. Mol. Biol.* 298: 395-405.
7. Melcak, I., et al. 2000. Nuclear pre-mRNA compartmentalization: trafficking of released transcripts to splicing factor reservoirs. *Mol. Biol. Cell* 11: 497-510.
8. Tolnay, M., et al. 2000. Heterogeneous nuclear ribonucleoprotein D0 contains transactivator and DNA-binding domains. *Biochem. J.* 1: 151-158.

## CHROMOSOMAL LOCATION

Genetic locus: HNRPR (human) mapping to 1p36.12; Hnrpr (mouse) mapping to 4 D3.

## SOURCE

hnRNP R (D-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of hnRNP R of human origin.

## STORAGE

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

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-16540 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

hnRNP R (D-14) is recommended for detection of hnRNP R 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).

hnRNP R (D-14) is also recommended for detection of hnRNP R in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for hnRNP R siRNA (h): sc-38296, hnRNP R siRNA (m): sc-38297, hnRNP R shRNA Plasmid (h): sc-38296-SH, hnRNP R shRNA Plasmid (m): sc-38297-SH, hnRNP R shRNA (h) Lentiviral Particles: sc-38296-V and hnRNP R shRNA (m) Lentiviral Particles: sc-38297-V.

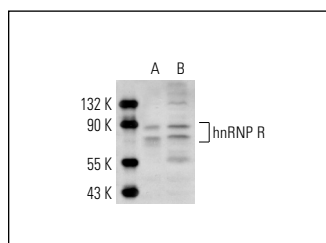
Molecular Weight of hnRNP R: 82 kDa.

Positive Controls: Hep G2 nuclear extract or MOLT-4 cell lysate: sc-2233.

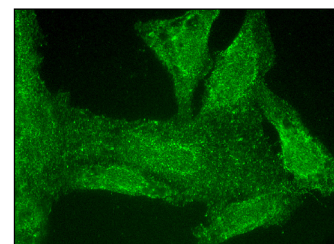
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



hnRNP R (D-14): sc-16540. Western blot analysis of hnRNP R expression in Hep G2 (A) and MOLT-4 (B) nuclear extracts.



hnRNP R (D-14): sc-16540. Immunofluorescence staining of formalin-fixed Hep G2 cells showing nuclear and cytoplasmic localization.

## RESEARCH USE

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