

# hnRNP A1 (4B10): sc-32301

## 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 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. The A/B subfamily of hnRNPs include A1, A2/B1, A3 and A0, and in *Xenopus*, hnRNP A1, A2 and A3 are ubiquitously expressed throughout development as well as in adult tissues. hnRNP A1 and A2/B1 regulate the processing of pre-mRNA by directly antagonizing the association of various splicing factors and by influencing the splice site selection on pre-mRNA. The hnRNP A0 gene is distinct from the other A/B family members, and it encodes a low-abundance protein, which is implicated in mRNA stability.

## REFERENCES

- Good, P.J., et al. 1993. Three new members of the RNP protein family in *Xenopus*. *Nucleic Acids Res.* 21: 999-1006.
- Myer, V.E. and Steitz, J.A. 1995. Isolation and characterization of a novel, low abundance hnRNP protein: A0. *RNA* 1: 171-182.
- Badolato, J., et al. 1995. Identification and characterisation of a novel human RNA-binding protein. *Gene* 166: 323-337.

## CHROMOSOMAL LOCATION

Genetic locus: HNRNPA1 (human) mapping to 12q13.13; Hnrnpa1 (mouse) mapping to 15 F3.

## SOURCE

hnRNP A1 (4B10) is a mouse monoclonal antibody raised against full length partially purified hnRNP A1.

## PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

hnRNP A1 (4B10) is available conjugated to agarose (sc-32301 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-32301 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-32301 PE), fluorescein (sc-32301 FITC), Alexa Fluor<sup>®</sup> 488 (sc-32301 AF488), Alexa Fluor<sup>®</sup> 546 (sc-32301 AF546), Alexa Fluor<sup>®</sup> 594 (sc-32301 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-32301 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-32301 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-32301 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## STORAGE

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

## APPLICATIONS

hnRNP A1 (4B10) is recommended for detection of hnRNP A1 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

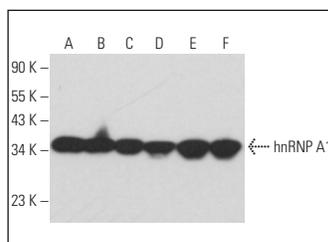
hnRNP A1 (4B10) is also recommended for detection of hnRNP A1 in additional species, including bovine and canine.

Suitable for use as control antibody for hnRNP A1 siRNA (h2): sc-270345, hnRNP A1 siRNA (m): sc-35576, hnRNP A1 shRNA Plasmid (h2): sc-270345-SH, hnRNP A1 shRNA Plasmid (m): sc-35576-SH, hnRNP A1 shRNA (h2) Lentiviral Particles: sc-270345-V and hnRNP A1 shRNA (m) Lentiviral Particles: sc-35576-V.

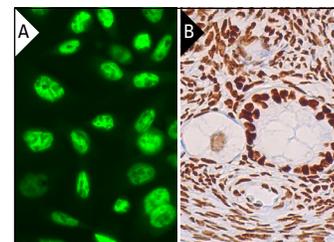
Molecular Weight of hnRNP A1 isoforms: 29/34/39 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, MCF7 whole cell lysate: sc-2206 or PC-3 cell lysate: sc-2220.

## DATA



hnRNP A1 (4B10): sc-32301. Western blot analysis of hnRNP A1 expression in Jurkat (A), PC-3 (B), MCF7 (C), A-10 (D), SP2/0 (E) and MM-142 (F) whole cell lysates.



hnRNP A1 (4B10) FITC: sc-32301 FITC. Direct immunofluorescence staining of formalin-fixed SW480 cells showing nuclear localization. Blocked with UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 (A). hnRNP A1 (4B10): sc-32301. Immunoperoxidase staining of formalin fixed, paraffin-embedded human ovary tissue showing nuclear staining of follicle cells, ovarian stroma cells and oocytes. Blocked with 0.25X UltraCruz<sup>®</sup> Blocking Reagent: sc-516214. Detection reagents used: m-IgGκ BP-B: sc-516142 and ImmunoCruz<sup>®</sup> ABC Kit: sc-516216 (B).

## SELECT PRODUCT CITATIONS

- van der Houven van Oordt, W., et al. 2000. The MKK<sub>3/6</sub>-p38-signaling cascade alters the subcellular distribution of hnRNP A1 and modulates alternative splicing regulation. *J. Cell Biol.* 149: 307-316.
- Marchesini, M., et al. 2017. ILF2 is a regulator of RNA splicing and DNA damage response in 1q21-amplified multiple myeloma. *Cancer Cell* 32: 88-100.e6.
- Chen, Y., et al. 2018. High expression of hnRNP A1 promotes cell invasion by inducing EMT in gastric cancer. *Oncol. Rep.* 39: 1693-1701.

## RESEARCH USE

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