Product Information

Anti-hnRNP-A1 Antibody, Mouse Monoclonal

Clone 4B10, purified from hybridoma cell culture

R9778

Product Description

Monoclonal Anti-hnRNP-A1 (mouse IgG2a isotype) is derived from the 4B10 hybridoma produced by the fusion of mouse myeloma cells (SP2/0 cells) and splenocytes from NZB mice immunized with purified human hnRNPA1.[1]

Monoclonal Anti-hnRNP-A1 recognizes human,[4] bovine, and canine hnRNP-A1 (~32-35 kDa). The antibody may be used in ELISA, immunoblotting,[4] immunoprecipitation, [4] and immunocytochemistry.[4] It does immunoprecipitate the hnRNP complex.[1, 4]

RNA polymerase II transcripts in the nucleus are in complex with several proteins called heterogeneous nuclear ribonucleoproteins (hnRNPs). These proteins are important in biological activities such as transcription, premRNA processing, cytoplasmic mRNA translation, and turnover. hnRNPs can be isolated either by immunoprecipitation or by sucrose gradient fractionation of cell extracts.[2, 4, 5] Isolated hnRNPs consist of protein groups named A to U and many of these protein groups consist of more than one isoform. The major steady-state proteins of the isolated hnRNP complex are A1, A2, B1, B2, C1, and C2, with a range of molecular weight starting with 34 kDa up to 43 kDa.[2, 4, 5]

hnRNP-A1 is important in pre-mRNA processing and in mRNA export from the nucleus. The protein binds to its RNA target through a consensus RNA-binding site UAGGGU. The protein contains a 38-amino acid domain called M9, which is important for the interaction with the transportin protein and therefore, for its import and export from the nucleus. RanGTP mediates dissociation of hnRNP -A1 from transportin. hnRNP-A1 is ubiquitously expressed with a higher expression in proliferating and/or transformed cells than in differentiated tissues.[6]

Reagent

The antibody is supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

Antibody Concentration: ~2 mg/mL

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. Storage in "frost-free" freezers is also not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

By immunoblotting, a working antibody concentration of 0.25-0.5 mg/mL is recommended using total cell extract of HeLa cells.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining optimal working dilutions by titration.

References

1. Pinol-Roma, S., et al., Genes Dev., 2, 215-227 (1988).

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3. Vautier, D., et al., J. Cell Sci., 114, 1521-1531 (2001).

4. Siomi, M.C., et al., J. Cell Biol., 138, 1181-1192 (1997).

5. Izaurralde, E., et al., J. Cell Biol., 137, 27-35 (1997).

6. Iervolino, A., et al., Mol. Cell. Biol., 22, 2255- 2266 (2002).

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