

Product Information

Monoclonal Anti-hnRNP-Q

Clone 18E4

Purified Mouse Immunoglobulin

Product Number **R 5653**

Product Description

Monoclonal Anti-hnRNP-Q (mouse IgG1) is derived from the 18E4 hybridoma produced by the fusion of murine myeloma cells (SP2/0 cells) and splenocytes from BALB/c mice immunized with recombinant human hnRNP-Q.¹ The isotype is determined using Sigma ImmunoType™ Kit (Sigma ISO-1) and by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents (Sigma ISO-2).

Monoclonal Anti-hnRNP-Q recognizes human,¹ bovine, canine, rat, mouse, chicken, and *Xenopus* hnRNP-Q (approx. 55-70 kDa). The antibody may be used in ELISA, immunoprecipitation, immunoblotting, and immunohistochemistry.¹ The antibody cross-reacts with hnRNP-R (approx. 80 kDa), which has 83 percent homology to hnRNP-Q.¹

In the nucleus, RNA polymerase II transcripts are in a complex with many different proteins. These proteins are called heterogeneous nuclear ribonucleoproteins (hnRNPs) and they act in several biological activities such as transcription, pre-mRNA processing, cytoplasmic mRNA translation and turnover.² hnRNPs can be isolated either by immunoprecipitation or by sucrose gradient fractionation of cell extracts. When this is performed, the hnRNPs is isolated (consisting of protein groups named A to U), and many of these protein groups consist of more than one isoform.³

hnRNP-Q family of proteins consist of three proteins (Q1, 2, and 3) that are derived by alternative splicing from the same gene.¹ These proteins interact with the survival of motor neurons protein (SMN) that is mutated in patients with spinal muscular atrophy (SMA). This interaction is mediated by 16 amino acids in the C-terminal part of the SMN protein. Immunodepletion of hnRNP-Q proteins and their localization in spliceosomes, indicate their important role in splicing.^{1,2} It was also found that hnRNP-Q and hnRNP-R interact with the hyperphosphorylated C-terminal repeat

domain of RNA polymerase II thus linking transcription events to splicing.⁴ Monoclonal antibodies specific for hnRNP-Q are an important tool for studying splicing and transcription events in the cell.

Reagent

Monoclonal Anti-hnRNP-Q is supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

Antibody Concentration: Approx. 2 mg/ml.

Precautions and Disclaimer

Due to the sodium azide content, a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS 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 not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Product Profile

By immunoblotting, a working antibody concentration of 1-2 µg/ml is recommended using HeLa total cell extract.

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

References

1. Mourelatos., Z., et al., EMBO J., **20**, 5443-5452 (2001).
2. Neubauer, G., et al., Nature Genet., **20**, 46-50 (1998).
3. Krecic, A.M., et al., Curr. Opin. Cell Biol., **11**, 2363-2371 (1999).
4. Carty, S.M., and Greenleaf, L., Mol. Cell. Prot., **1**, 598-610 (2002).

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