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Monoclonal Antibody to 2,2,7-Trimethylguanosine - Purified

Catalog No.: AM50445PU-N

Quantity: 0.1 mg

Concentration: lot-specific

Background: The 2,2,7-trimethylguanosine cap structure is found on the 5' end of small nuclear RNAs and small nucleolar RNAs. Initially, these RNA molecules are capped with 7-monomethylguanosine (m7G) which is then methylated by the trimethylguanosine synthase enzyme to form 2,2,7-trimethylguanosine. The synthesis of 2,2,7-trimethylguanosine occurs in the cytoplasm and is an important marker for nuclear localization of RNA molecules. Capping of RNAs is an important requirement for RNA transport and splicing processes. Uncapped RNAs are rapidly degraded by the 5 exoribonuclease enzyme. 2,2,7-trimethylguanosine capping may play a role in the expression of viral RNAs.

Host / Isotype: Mouse / IgG1

Recommended Isotype Controls: SM10P (for use in human samples), AM03095PU-N

Clone: K121

Immunogen: 2,2,7-trimethylguanosine.

Format:
State: Liquid purified Ig fraction
Purification: Protein G Chromatography
Buffer System: 0.1 M Tris-Glycine (pH 7.4), 150 mM NaCl with 0.05% sodium azide.

Applications:
Immunoprecipitation: A representative lot from an independent laboratory was immunoprecipitated in IP (Moketi, S., et al. (2002). Mol Cell. 10(3):599-609.).
Immunocytochemistry: A 1/500 dilution of this antibody detected 2,2,7-trimethylguanosine in NIH/3T3, HeLa.and A431 cells.
Immunoaffinity Purification: A representative lot from an independent laboratory was used in IAP (Krainer, A.R., et al. (1988). Nucleic Acids Res. 16(20):9415-9429.).
Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

Specificity: Demonstrated to react with Human and Mouse.

Storage: Store undiluted at 2-8°C.
Shelf life: one year from despatch.

Pictures:

Immunocytochemistry Analysis:
Representative lot data.
Confocal fluorescent analysis of NIH/3T3, A431, and HeLa cells using a 1:500 dilution of Cat.-No AM50445PU-N, Anti-2,2,7-Trimethylguanosine, clone K121 and a Donkey Anti-Mouse IgG secondary antibody conjugated to Cy3 (Red). Actin filaments have been labeled with Alexa Fluor® 488 dye - Phalloidin (Green). Nucleus is stained with DAPI (Blue). This antibody positively stains the nucleus.