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Product Information

Anti-Nuclear Pore Complex Proteins antibody, Mouse monoclonal
clone 414, purified from hybridoma cell culture

Product Number **N8786**

Product Description

Anti-Nuclear Pore Complex Proteins antibody, Mouse monoclonal (mouse IgG1 isotype) is derived from the hybridoma 414 produced by the fusion of mouse myeloma cells (NS-1 cells) and splenocytes from BALB/c mice immunized with rat liver nuclei extract.[1] The isotype is determined by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents, Product Number ISO2.

Anti-Nuclear Pore Complex Proteins antibody, Mouse monoclonal recognizes several proteins in the nuclear pore complex of various species such as human, rat,[1, 2] mouse,[6] *Xenopus*,[7] and yeast[3] (approx. 62-210 kDa). The antibody may be used in various immunochemical techniques including immunoblotting,[1, 3] immunoprecipitation,[1-3] immunocytochemistry,[1, 3] and immunoelectron microscopy.[1, 3]

Nucleocytoplasmic exchanges occur through nuclear pore complexes (NPCs) that are circular apertures in the nuclear envelope where the inner and the outer nuclear membrane are joined. The NPCs, which are structurally highly conserved in all eukaryotic cells, are cylindrical supramolecular assemblies with octagonal symmetry. They contain 30-40 different proteins resulting in a complex with a molecular weight of ~50 kDa.[4-5] Through the NPC there is a passive transport of small molecules (ions and water) that are smaller than 9-10 nm. Large molecules such as RNA and proteins have to be actively transported through the NPC in an energy and signal dependent manner. Many proteins interact with members of the NPC complex. For example, the importin α/β complex interacts with nuclear localization signals (NLS) in different target proteins and transports them through the NPC into the nucleus in a Ran-GTPase dependent manner. Carrier proteins that interact with proteins in the NPC and export the mRNA through the pore, mediate export of mRNA from the nucleus.[4-5]

Monoclonal antibodies to nuclear pore complex proteins (NPCs) are an important tool for studying NPC proteins and their interaction with import and export proteins.

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

Antibody Concentration: ~3 mg/mL.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material 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 prolonged storage, freeze in working aliquots. Repeated freezing and thawing, or storage in frost-free freezers, is 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

Immunoblotting: a working antibody concentration of 2–4 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 optimal working dilutions by titration.

References

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