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Product Information

Anti-Nup98 antibody
Rat monoclonal, Clone 2H10
purified from hybridoma cell culture

Product Number **N1038**

Product Description

Monoclonal Anti-Nup98 (rat IgG2c-κ isotype) is derived from the hybridoma 2H10 produced by the fusion of mouse myeloma cells (SP2 cells) and splenocytes from WKY/NCrj rats immunized with a recombinant fragment of human Nup98.[1]

Monoclonal Anti-Nup98 recognizes human[1] and rat Nup98. The antibody may be used in ELISA, immunoblotting (~98 kDa),[1] and immunocytochemistry.[1]

Exchange between the cytoplasm and the nuclear compartments occurs through the nuclear pore complex (NPC), a ~125 MDa supramolecular assembly of proteins organized into an elaborate channel that spans the double membrane system of the nuclear envelope. NPC allows passage by passive diffusion of small molecules, and active transport of most molecules when bound to nuclear transport receptors. The vertebrate NPC contains ~100 different polypeptides called nucleoporins or Nups.

Nup98 functions as a docking protein for cytosol-mediated docking of import substrates. It is formed from a precursor protein of 186 kDa that after cleavage yields two nucleoporins, Nup96 and Nup98. These two proteins are targeted to the nucleoplasmic side of the NPC near the nucleoplasmic basket. This function has been localized to the N-terminal half of Nup98. During mitosis, destruction of the securin protein by the anaphase-promoting complex (APC) is regulated by the nucleocytoplasmic transport factors Rae1 and Nup98.[2-5] Combined haplo-insufficiency of Rae1 and Nup98 in mice, results in premature separation of sister chromatids, severe aneuploidy, and untimely degradation of securin. In some human myeloid leukemia patients a chromosome rearrangement occurs between the HOXA9 gene and the nucleoporin gene Nup98. This translocation produces an invariant chimeric Nup98/HOXA9 transcript containing the amino terminal half of Nup98 fused in frame to HOXA9. These findings identified HOXA9 and Nup98 as important proteins in human myeloid leukemia.[2-5]

Reagent

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

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, 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 concentration of 0.5-1 μg/mL is recommended using HeLa nuclear extract.

Note: In order to obtain best results in various techniques and preparations, it is recommended to determine optimal working dilutions by titration.

References

1. Fukuhara, T. et al., *Hybridoma*, **24**, 244-247 (2005).
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3. Jeganathan, K.B. et al., *Nature*, **438**, 1036-1039 (2005).
4. Nakamura, T. et al., *Nature Genet*., **12**, 154-158 (1996).
5. Rosenblum, J.S., and Blobel, G., *Proc. Nat. Acad. Sci. USA*, **96**, 11370-11375 (1999).

VS,DS,EK,KAA,PHC,MAM 08/19-1