

Product Information

Monoclonal Anti-Neurofibromin

Clone NFn27b

mouse ascites fluid

Catalog Number **N3662**

Product Description

Monoclonal Anti-Neurofibromin (mouse IgG1 isotype) is derived from the NFn27b hybridoma produced by the fusion of mouse myeloma cells (SP2/0) and splenocytes from BALB/c mice immunized with a synthetic peptide corresponding to amino acids 27-41 located in the N-terminus of human neurofibromin. The isotype is determined using a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents, Catalog Number ISO-2.

Monoclonal Anti-Neurofibromin recognizes human, rat and mouse Neurofibromin (> 250 kDa). The product is useful in ELISA, immunoblotting and immunohistology (frozen, formaldehyde fixed /paraffin embedded). The antibody epitope resides between amino acids 27-41 of human neurofibromin. Clone NFn27b is recommended over clone NFn27a, Catalog Number N3537, for immunohistochemistry assays.

Neurofibromatosis 1 (NF1) gene (located on chromosome 17q11.2) encodes a large protein with 2818 amino acids called neurofibromin. Mutation in NF1 gene is one of the most common inherited human autosomal dominant disorders. The incidence of this mutation is about 1 in 3500 individuals and most patients develop benign tumors of the peripheral nervous system.^{1,3} The mutation in NF1 gene is also related to increased risk of malignant tumor progression. NF1 was found to function as a tumor suppressor gene that negatively regulates Ras signaling pathway. Studies have demonstrated that neurofibromin protein is a GTPase activating protein (GAP) of Ras. Loss of activity of neurofibromin in tumors is found to be associated with increased Ras activity.^{1,3,5} Neurofibromin protein is highly conserved from yeast to human. The highest expression of this protein was found in human peripheral and central nervous system.¹

Reagent

The product is supplied as ascites fluid with 15 mM sodium azide as a preservative.

Precautions and Disclaimer

Due to the sodium azide content a material safety sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the

MSDS for information regarding hazardous 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

A working dilution of 1:100 – 1:200 is determined by immunoblotting, using rat brain cytosolic extract.

Note: In order to obtain best results in different techniques and preparations we recommend determining optimal working dilution by titration test.

References

1. Dasgupta, B., et al., The neurofibromatosis 1 gene product neurofibromin regulates pituitary adenylate cyclase-activating polypeptide-mediated signaling in astrocytes. *J. Neurosci.*, **23**, 8949-8954 (2003).
2. Yunoue, S., et al., Neurofibromatosis type I tumor suppressor neurofibromin regulates neuronal differentiation via its GTPase-activating protein function toward Ras. *J. Biol. Chem.*, **278**, 26958-26969 (2003).
3. Ingram, D.A., et al., Lymphoproliferative defects in mice lacking the expression of neurofibromin: functional and biochemical consequences of Nf1 deficiency in T-cell development and function. *Blood*, **100**, 3656-3662 (2002).
4. Xu, Y., et al., Gene-targeted deletion of neurofibromin enhances the expression of a transient outward K⁺ current in Schwann cells: a protein kinase A-mediated mechanism. *J. Neurosci.*, **22**, 9194-9202 (2002).
5. Hakimi, M-A., et al., The motor protein kinesin-1 links neurofibromin and merlin in a common cellular pathway of neurofibromatosis. *J. Biol. Chem.*, **277**, 36909-36912 (2002).

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