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Alpha-Internexin (NF66) Antibody
Mouse monoclonal antibody
Catalog # AN1137

Specification

Alpha-Internexin (NF66) Antibody - Product Information

Application	**WB, IF**
Primary Accession	P23565
Reactivity	**Human, Mouse, Rat**
Host	**mouse**
Clonality	**monoclonal**
Isotype	**IgG1**
Calculated MW	**66 KDa**

Alpha-Internexin (NF66) Antibody - Additional Information

Gene ID	**24503**
Gene Name	**INA**

Other Names
Alpha-internexin, Alpha-Inx, Ina, Inexa

Target/Specificity
Recombinant rat alpha-internexin expressed in and purified from E. coli.

Dilution
WB~~ 1:2000
IF~~ 1:250

Format
Total IgG fraction

Antibody Specificity
Specific for the ~66k alpha Internexin protein. Can be used on formalin-fixed cells in tissue culture, cryostat sections, and Western blotting. The epitope recognized by the ID2 clone is in the C-terminal non-helical extension of the protein and is unusually resistant to aldehyde fixation, so that this antibody is ideal for studies of paraffin embedded formalin fixed histological sections.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
Alpha-Internexin (NF66) Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Shipping
Blue Ice

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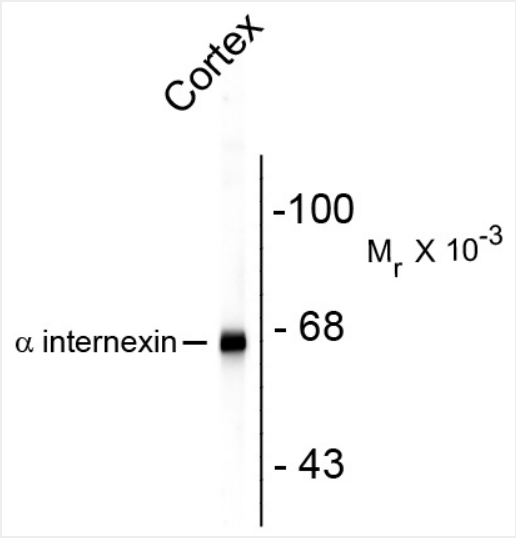
Alpha-Internexin (NF66) Antibody - Protocols

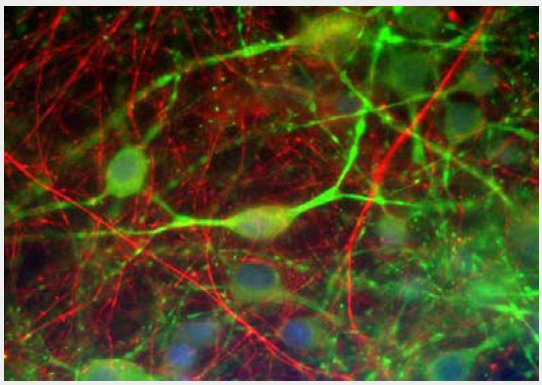
Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Alpha-Internexin (NF66) Antibody - Images



Western blot of rat cortex lysate showing specific immunolabeling of the ~ 66k alpha internexin protein.



Immunostaining of cultured rat CNS cells showing specific labeling of alpha-internexin in neuronal processes in red and microtubule associated protein 2 in green.

Alpha-Internexin (NF66) Antibody - Background

Alpha-internexin is a Class IV intermediate filament originally discovered as it co-purifies with other neurofilament subunits (1). Alpha-internexin is related to but distinct from the better known neurofilament triplet proteins, NF-L, NF-M and NF-H, having similar protein sequence motifs and a similar intron organization. It is expressed only in neurons and in large amounts early in neuronal

development, but is down-regulated in many neurons as development proceeds. Many classes of mature neurons contain alpha-internexin in addition to NF-L, NF-M and NF-H. In some mature neurons alpha-internexin is the only neurofilament subunit expressed. Antibodies to alpha-internexin are therefore unique probes to study and classify neuronal types and follow their processes in sections and in tissue culture. In addition, recent studies show a marked up-regulation of alpha-internexin during neuronal regeneration (2). The use of antibodies to this protein in the study of brain tumors has not been examined to date, but is likely to be of interest. Recently Cairns et al. used this antibody to show that alpha-internexin is an abundant component of the inclusions of neurofilament inclusion body disease (NFID), a serious human neurodegenerative disorder (3,4). The antibody was also used to confirm the presence of circulating auto-antibodies to alpha-internexin in the sera of some patients with endocrine autoimmunity, as well as in some normal individuals (5).

Alpha-Internexin (NF66) Antibody - References

1. Pachter, J and Liem, RKH. Alpha-Internexin, a 66-kD intermediate filament-binding protein from mammalian central nervous tissues. J Cell Biol 101:1316-22 (1985).
2. McGraw et al. Axonally transported peripheral signals regulate alpha-internexin expression in regenerating motoneurons. J Neurosci 22:4955-63 (2002).
3. Cairns NJ et al. alpha-Internexin aggregates are abundant in neuronal intermediate filament inclusion disease (NIFID) but rare in other neurodegenerative diseases. Acta Neuropathol (Berl). May 28 [Epub ahead of print] (2004).
4. Cairns NJ et al. alpha-internexin is present in the pathological inclusions of neuronal intermediate filament inclusion disease. Am J Pathol. 164:2153-61 (2004).
5. Rajasalu T, Teesalu K, Janmey PA, Uibo R. Demonstration of natural autoantibodies against the neurofilament protein alpha-internexin in sera of patients with endocrine autoimmunity and healthy individuals. Immunol Lett. 94:153-60 (2004).