

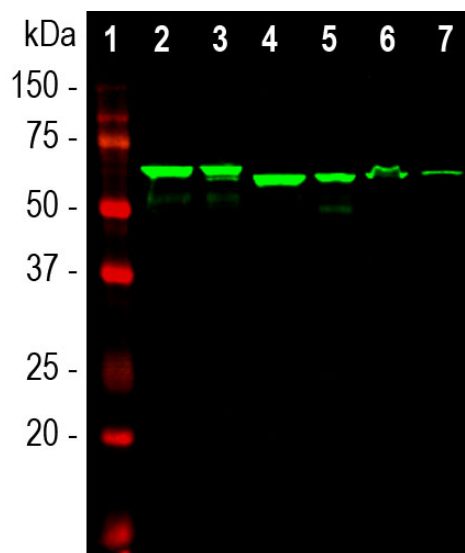
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HGNC Name: INA
UniProt: P23565
RRID: AB_2572334
Immunogen: Full length recombinant rat α-internexin expressed in and purified from E. coli.
Format: Purified antibody at 1mg/mL in 50% PBS, 50% glycerol plus 5mM Na₂S₂O₃
Storage: Store at 4°C for short term, for longer term at -20°C.
Recommended dilutions:
WB: 1:10,000. IF/ICC and IHC: 1:5,000.

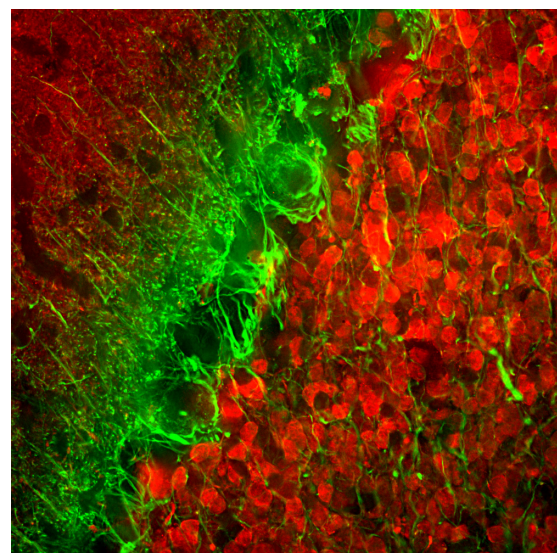
References:

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. Chiu FC, et al. Characterization of a novel 66 kd subunit of mammalian neurofilaments. *Neuron* 2:1435-45 (1989).
3. McGraw T. et al. Axonally transported peripheral signals regulate alpha-internexin expression in regenerating motoneurons. *J Neurosci*. 22:4955-63 (2002).
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6. Uchikado H1, Shaw G, Wang DS, Dickson DW. Screening for neurofilament inclusion disease using alpha-internexin immunohistochemistry. *Neurology* 64:1658-9 (2005).
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Applications	Host	Isotype	Molecular Wt.	Species Cross-Reactivity
WB, IF/ICC, IHC	Mouse	IgG1	64-66 kDa by SDS-PAGE	Hu, Ct, Rt, Ms



Western blot analysis of different tissue lysates using mouse mAb to α-internexin, MCA-1D2, dilution 1:10,000 in green: [1] protein standard, [2] rat brain, [3] rat spinal cord, [4] mouse brain, [5] mouse spinal cord, [6] pig spinal cord and [7] cow spinal cord. MCA-1D2 antibody reveals the α-internexin protein with apparent molecular weight of 64 to 66 kDa with slight variability among species.



Immunofluorescent analysis of rat cerebellum section stained with mouse mAb to α-internexin, MCA-1D2, dilution 1:5,000 in green, and costained with chicken pAb to calretinin, CPCA-Calret, 1:2,000 in red. Following transcardial perfusion of rat with 4% paraformaldehyde, brain was post fixed for 24 hours, cut to 45μm, and free-floating sections were stained with the above antibodies. The α-internexin antibody selectively stains neuronal processes, in particular parallel fibers, the axons of granule cells. Calretinin antibody stains interneurons predominantly in the molecular layer of the cerebellum.

Background:

α-internexin is a Class IV intermediate filament protein originally discovered by two different groups of researchers as it copurifies with NF-L, NF-M and NF-H, the better known major neurofilament "triplet" subunits (1,2). It is expressed only in neurons and in large amounts early in neuronal development, but is down-regulated in many neurons as development proceeds. Some neurons express α-internexin in the absence of NF-L, NF-M and NF-H, though most mature neurons express all four proteins. α-internexin antibody has been shown, in peer reviewed publications, to reveal the upregulation of α-internexin in facial neurons following experimental axotomy followed by down regulation on axonal regeneration (3). It has also been used to identify and classify patients with neurofilament inclusion body disease, a specific form of frontotemporal lobar dementia (4-6). Finally it can be used to confirm the presence of circulating antibodies to α-internexin in the blood of certain patients with endocrine autoimmunity (7).

This antibody was made against full length recombinant rat α-internexin, and the antibody binds to the α-internexin protein from different mammals, including human, rat, and mouse. It is clean and specific on western blots, ICC and IHC. We also supply an alternate mouse monoclonal antibody, [MCA-2E3](#), a rabbit polyclonal antibody, [RPCA-a-Int](#), and a chicken polyclonal antibody, [CPCA-a-Int](#), to this protein.

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Abbreviation Key:

mAb—Monoclonal Antibody **pAb**—Polyclonal Antibody **WB**—Western Blot **IF**—Immunofluorescence **ICC**—Immunocytochemistry
IHC—Immunohistochemistry **E**—ELISA **Hu**—Human **Mo**—Monkey **Do**—Dog **Rt**—Rat **Ms**—Mouse **Co**—Cow **Pi**—Pig **Ho**—Horse **Ch**—Chicken
Dr—*D. rerio* **Dm**—*D. melanogaster* **Sm**—*S. mutans* **Ce**—*C. elegans* **Sc**—*S. cerevisiae* **Sa**—*S. aureus* **Ec**—*E. coli*.