

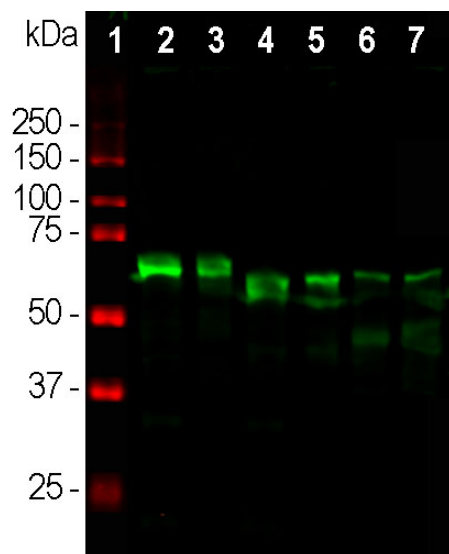
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**HGNC Name:** INA  
**UniProt:** Q16352  
**RRID:** AB\_2127500  
**Immunogen:** Full length recombinant rat α-internexin expressed in and purified from *E. coli*.  
**Format:** Concentrated IgY preparation in PBS plus 0.02% NaN<sub>3</sub>  
**Storage:** Store at 4°C  
**Recommended dilutions:**  
Western blot: 1:10,000. ICC/IF and IHC: 1:1,000.

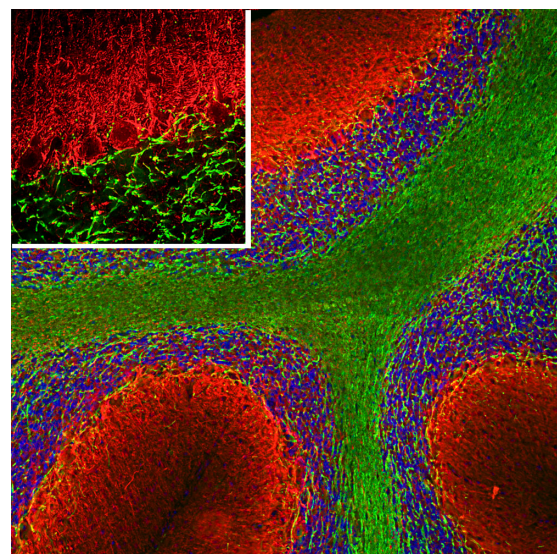
### References:

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). 4. Evans J. et al. Characterization of mitotic neurons derived from adult rat hypothalamus and brain stem. *J Neurophysiol*. 87:1076-85 (2002). 5. 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). 6. Uchikado H1, Shaw G, Wang DS, Dickson DW. Screening for neurofilament inclusion disease using alpha-internexin immunohistochemistry. *Neurology* 64:1658-9 (2005).

| Applications    | Host    | Isotype | Molecular Wt. | Species Cross-Reactivity |
|-----------------|---------|---------|---------------|--------------------------|
| WB, ICC/IF, IHC | Chicken |         | 64-66kDa      | Hu, Rt, Ms, Co, Pi, Ho   |



Western blot analysis of different tissue lysates using chicken pAb to α-Internexin, CPCA-a-Int, dilution 1:10,000 in green: [1] protein standard (red), [2] rat brain, [3] rat spinal cord, [4] mouse brain, [5] mouse spinal cord, [6] cow spinal cord and [7] pig spinal cord. CPCA-a-Int antibody reveals the α-internexin protein with apparent molecular weight of 64 to 66kDa, with some variability among different species.



Immunofluorescent analysis of a rat cerebellum section stained with chicken pAb to α-internexin, CPCA-a-Int, dilution 1:5,000 in red, and costained with mouse mAb to MBP, MCA-7G7, 1:5,000 in green. The blue is Hoechst staining of nuclear DNA. Following transcardial perfusion of the 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 axons and dendrites of neuronal cells, in particular Purkinje cells, parallel fibers and the axons of granule cells, while the MBP antibody stains myelin sheathes around axons.

### 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. An 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). The MCA-2E3 mouse monoclonal antibody to α-internexin, also made by EnCor is the standard reagent used to identify and classify patients with neurofilament inclusion body disease, a specific form of frontotemporal lobar dementia (4-6). This antibody was made against full length recombinant rat α-internexin fused to the C-terminus of bacterial TrpE expressed in and purified from *E. coli*. 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 mouse monoclonal antibodies and a rabbit polyclonal antibody to this protein, MCA-2E3, MCA-1D2 and RPCA-a-Int.

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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.**