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Catalogue# CPCA-a-Int: Chicken Polyclonal Antibody to Neurofilament Alpha-Internexin

The Immunogen: [Neurofilaments](#) can be defined as the intermediate or 10nm diameter filaments found in neuronal cells. They are composed a mixture of subunits which often includes the neurofilament triplet proteins, NF-L, NF-M and NF-H. Neurofilaments may also include peripherin, α -internexin, nestin and in some cases vimentin. α -internexin is a ~66 kDa Class IV intermediate filament originally discovered as it co-purifies with other neurofilament subunits (1). It 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 in large amounts early in neuronal development, but is downregulated 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 α -internexin are therefore unique probes to study and classify neuronal types and follow their processes in sections and in tissue culture. In addition the very early developmental expression of alpha-internexin means its presence is an early and convenient diagnostic feature of neuronal progenitors cells and other cell committed to the neuronal lineage. In addition recent studies show a marked up-regulation of α -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

Antibody Characteristics: The antibody was raised against recombinant α -internexin expressed in and purified from *E. coli*, and is similar to but not identical with antibodies described in reference 3 below. This antibody is an IgY preparation, with total protein content about 25 mg/mL. The preparation contains 10mM sodium azide as a preservative. Store at 4°C or -20°C. Avoid repeat freezing and thawing. Store at 4°C or -20°C. Avoid repeat freezing and thawing.

Suggestions for use: The serum can be diluted to 1:500 for immunofluorescence staining and 1:5,000 for western blotting. On western blots look for a major band at 64-66 kDa, depending on the species. Minor bands at ~150 kDa are probably covalent dimers, and bands at ~50 kDa represent α -internexin breakdown products.

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 motor neurons. [J Neurosci 22:4955-63 \(2002\)](#)
3. Evans J. et al. Characterization of mitotic neurons derived from adult rat hypothalamus and brain stem. [J. Neurophysiol. 87:1076-85 2002.](#)

Limitations: This product is for research use only and is not approved for use in humans or in clinical diagnosis.