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Catalogue# Prot-r-a-Int: Purified recombinant full length human a-internexin

Background: Neurofilaments are the 10 nm or intermediate filament proteins found specifically in neurons, and are composed of three major proteins called NF-L, NF-M and NF-H along with a fourth α -internexin, which was discovered somewhat later (1). α -internexin and other neurofilament subunits accumulate in many neurological diseases, such as Lou Gehrig's disease (ALS) and Alzheimer's disease (2-4), and autoantibodies to this protein have been reported (5). There has been much recent interest in the detection of NF-L and NF-H in CSF and blood as surrogate markers of neuronal damage and degeneration (6,7), though similar studies of the potential utility have not to date been reported. Our protein preparation can be used as an ELISA standard or to generate antibodies to human α -internexin.



Left: Coomassie brilliant blue stained SDS-PAGE gel of various full length human recombinant proteins. His-tagged human α-internexin, was expressed and purified from *E. coli* BL21 strain using immobilized metal affinity chromatography. 1ug of pure protein was run on each lane, and the lane indicated with "a -Int" contains the ainternexin protein. The other lanes show recombinant His-tagged peripherin (Peri), neurofilament NF-L (NF-L) and vimentin (Vim) as indicated. Protein molecular weight standards are in the first lane and apparent molecular weights are as indicated. In each case the molecules run at ~5kDa slower than the native protein due to the addition of the His-tag and other pET vector derived sequence.

Protein Characteristics: A codon optimized cDNA designed to express full length human a-internexin was inserted into pET30a (+) eukaryotic expression vector, which adds an N-terminal in frame His-tag and some other vector sequence. This was transformed into *E. coli* and recombinant protein was purified in 6M urea using immobilized metal affinity chromatography. Purified protein was diluted to 1.0 mg/mL and is supplied in 6M urea.

References:

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

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