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

Background: Neurofilaments are the 10 nm or intermediate filament proteins found specifically in neurons, and are composed predominantly of four major proteins called NF-L, NF-M, NF-H and α-internexin (1,2). α-internexin is the lowest molecular weight major neurofilament subunit and runs on SDS-PAGE gels at about 66 kDa, with some variability between species. Antibodies to α-internexin are useful for identifying neuronal cells and their processes in tissue sections and in tissue culture. Some neurons express only α-internexin and no other neurofilament subunit and α-internexin is expressed earlier in development than the other neurofilament subunits (1,2). Antibodies to α-internexin can also be useful in the diagnostics of neurofilament accumulations seen in certain neurological diseases, such as neurofilament inclusion body disease (3).

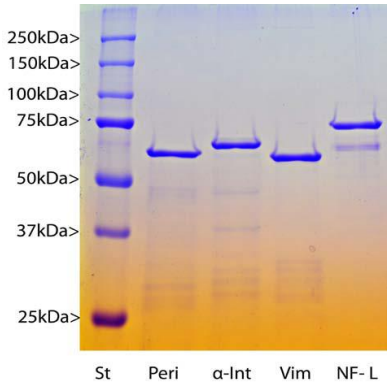

Figure: Coomassie brilliant blue stained SDS-PAGE gel of various recombinant proteins. His-tagged full length human α-internexin, was expressed and purified from *E. coli* BL21 using immobilized metal affinity chromatography. 1µg of pure protein was run on each lane. The lane indicated with "α-int" contains the α-internexin protein. The other lanes show recombinant His-tagged peripherin (Peri), vimentin (Vim) and neurofilament NF-L (NF-L) as indicated. Protein molecular weight standards are in the first lane and apparent molecular weights are as indicated.

Protein Characteristics: A cDNA encoding full length human α-internexin was inserted into an eukaryotic expression vector which adds an N-terminal in frame His-tag. 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 mg/mL and is supplied in 6M urea.

References:

1. Perrot R, Eyer J. Neuronal intermediate filaments and neurodegenerative disorders. Brain Res Bull 80:281-295 (2009).

2. 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).

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