

Nck, a melanoma cDNA encoding a cytoplasmic protein consisting of the src homology units SH2 and SH3

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A cDNA clone encoding a novel cytoplasmic protein, nck, has been isolated from a human melanoma library using monoclonal antibodies produced against the melanoma associated antigen MUC18 (1). The nck cDNA codes for a protein of 377 amino acids which lacks a signal peptide or transmembrane region. It identifies a mRNA of 2.1kb which is expressed in a wide range of human cell lines. Nck shows no homology with MUC18 and consists of one SH2 (or B+C box) and 3 SH3 (or A box) domains. These domains have been found in nonreceptor tyrosine kinases, phospholipase c- γ , the CT10 viral oncogene crk and a variety of proteins in unicellular eukaryotes and are thought to regulate enzymatic activity and/or submembrane localization (2, 3).

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2. Rodaway, A.R., Sternberg, M.J.E., Bentley, D.L. (1989) *Nature* **342**, 624.
3. Katan, M., Parker, P.J. (1988) *Nature* **332**, 203.

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1 AATTCGGAAATCCCGGGAGCAGGCCCTCTGTCGCCCTACGGCCATCACGCGCCCGCAGTGGCCCTCTGG
70 AGCCCTCTCAGTCTGAAAGCTGCTGAAAGATGGCAGAAAGATGGTGGTATAGCCAAATTTGATTAT
      H A E R V V V A K F D Y
139 GFGGCCAACAGAACAGAGTGGACATCAGAGAGATGAGATTATGGCTTCTGGAGATTCTTAG
      Y A Q Q E Q E L D I K E H E R L V L L D D E K
208 TCTGGTGGCGAGTTCGAAATTCATGAAATAAACAGGTTTGTGCCCTCTAACTATGTGGAAAGGAAA
      S W N R V R H S N H K T G P V P S M Y V E R K
277 AACAGTCTCGGAAAGCATCTATTGTGAAALACCTAALAGATACCTTAGCCATGGAAAGTGAAGA
      N S A R K A S I V K N L K D T L G I G K V K R
346 AAACCTAGTGTCCAGATTCTGCACCTCTCTGATGATAGTTTGTGGACCCAGGGGAAACCTCTAT
      K P S V P D S A S P A D D S F V D P G E R L Y
415 GACCTCAACATGCCCGCTTATGTGAAATTAACACATGGCTGAGAGAGAGGATGAATTATCATTGATA
      D L N M P A Y V E F F N Y M A E R E D E L S L I
484 AAGGGGACAAAGGTGATCTCATGGGAAATTCAGTAAATGGTGGTGGTGGCTGGTGGTACACATGGACAA
      K G T K V Y V N E K C S D G W W R G S Y N G Q
553 GTTGGATGGTTCCTTCAAACTATGTAACTGAAAGAGGTGACAGTCCCTTGGGTTGACCAATGGGTTCT
      Y Q N F R E H Y V T E E G D S P L G D E V G S
622 CTGTGAGAAATTAGCAGCTGCTCAATPAACCTAAATACCTGGGCAAGTGTTCATGTGGTACAGGCT
      L S E K L A A V V M N L N T G Q V L H V V Q A
691 CTTTACCATTACCTCATCTAATGATGAGAACTTAATTCGAGAAAGGAGATGTAATGATGTTT
      L Y P P S S S N D E E L N F E K G D V M D V I
760 GAAALACTGAAATGACCAGAGTGGGAAATGAGGAAAGTAAATGATGATGATGATGATGATGATGATGAT
      E K P E N D P E W W K C R E K I N G W V G L V P
829 AAAAATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGAT
      K H Y V T V M Q N N P L T S G L E P S P P Q C
898 GATTCATTAGGCTTCACTCACTGAGAAAGTGTGGCAATCTTGGTATTATGACAAAGTCAACCAGG
      D Y I R P S L T G K F A G N F N Y Y G E V Y R
967 CATCAAGCAGAAATGOCATTAAATGAAAGAGGACATGAAAGGATTCCTCAATTCGATGATGATGATGAT
      H Q A E H A H E R E E E G D F I X D S E S
1036 TGGCAGAAATTTCTGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGAT
      S E N D E F Y E L K A G E N K E F F V Q L F
1105 GAGCTGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGAT
      E T V Y C I G Q R K E S T E R E L V E E Y K K
1174 GCACCAATTTTACAGTGAACAGGAGAAATTAATGATGATGATGATGATGATGATGATGATGATGATGAT
      A P I P T S E Q G E K L Y L V K H L S -
1243 CCAGAAAGTACTGCTGTGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGAT
      A P I P T S E Q G E K L Y L V K H L S -
1312 CAGTCTGCTGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGAT
      A P I P T S E Q G E K L Y L V K H L S -
1381 CAGCCATACATATATACTATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGAT
      A P I P T S E Q G E K L Y L V K H L S -
    
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Figure 1. The nucleotide and deduced amino acid sequence of human nck cDNA (clone drop 6). The SH2 domain (B, C boxes double underline) and SH3 domains (single underline) are indicated.

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