Nucleotide and deduced amino acid sequence of a γ subunit of bovine fibrinogen

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Using immunological screening a clone for a gamma subunit of fibrinogen was isolated from an adult bovine liver cDNA library in lambda gt11 (Clontech). The clone was sequenced by the method of Sanger et.al (1) and contains an open reading frame spanning 1335 nucleotides which encodes a 444 amino acid protein including a 24 residue signal peptide. By homology with published human sequence data (2), we infer that this cDNA represents the gamma' (gammaB) chain of bovine fibrinogen.

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1      GGCCTGGCCGCCGCCGACCATGAGTTGGTCTCGCACCTCCGAGTGTAATCTTACATCTTTTCATGTTCTT
      M S W S S H P P S V I F Y I L S L L S
29     TCAGCATGCGCTGGCATATGTTGCTACCCGAGACAACCTGCTGATCTTAGATGAAGATTGGTAGTTATGCCCACATCC
      S A C L A Y V A T R D N C C I L D E R F G S Y C P T T
57     TGTGGAATTGCGAATTTCTGTAATAATTACCAACAGCTGTAGACAAGATCTACGAACCTTGGGAAGGCATCTTATATCAG
      C G I A D F L N N Y Q T S V D K D L R T L E G I L Y Q
85     GTTGAGACAAACATCAGAAGCCAGAGAGCTGGTCAAAGCAATCCAAATCAGCTATAACCTGATCAACCTCAAGCCA
      V E N K T S E A R E L V K A I Q I S Y H P D Q P S K P
113    AATAACATAGAGAGTGTCTACCAAGAAATCCAAAGATATGATGGAAGAAATATGAATATGAACATGATATCAACACAT
      N N I E A A T K N S K S H M E E I M K Y E T L I S T H
141    GAATCAACAATTCGATTTTGGCAAGAGGTATATACTCAATAGTCAAAAATCGTTAACTAAGAGATAAAGTGGTCCAG
      E S T I R F L Q E V Y H S N S Q K I V N L R D K V V Q
169    CTTGAAGCAAACTGTCAAGAGCTTGTCAAGATACAGTGAATATACATGATGTAACCTGGGAGAGATTGCCAAGATGTC
      L E A N C Q E P C Q D T V K I H D V T G R D C Q D V A
197    AATAAGGGGGCCAAAGAGAGTGGACTTTACTTTATCAGACCTCTGAAAGCTAAGCAGTTCTTAGTCTACTGTGAATGAT
      N K G A K E S G L Y F I R P L K A K Q F L V Y C E I D
225    GGGTCTGGAAATGGATGGAAGTGTGTTTCAAGAGAGGCTGTAGGCAAGTGGATTTCAAGAAAAGCTGGATCAATATAA
      G S G N G W T V F Q K R L D G S L D F K K N W T Q Y K
253    GAAGGGTTTGGACATCTGTCTCTACTGGTACTGGAACACAGAAATTTGGCTGGGAAATGAGAAGATTCATTTGATAGC
      E G F G H L S P T G T G N T E F W L G N E K I H L I S
281    ACACAGTCATCCATCCCTTATGATTAAGAATACAGTTGGAGAGCTGGAATGGCAAGCAACGACGATCGAGATTATGCTCA
      T Q S S I P Y V L R I Q L E D W N G R T S T A D Y A S
309    TTCAGGTGACAGGTGAATGACAAATACCGCTGACATATGCTTACTTCATGGTGGAGATGCTGGAGATGCATTGAT
      F K V T G E N D K Y R L T Y A Y F I G G D A G D A F D
337    GGTACGATTTTGGCGATGATTCTAGTGACAAGTTTTCACATCCCATANTGCATGCAAGTTCAGTACTGGGACAGTGAC
      G Y D F G D D S S D K F F T S H N G H Q F S T W D S D
365    AATGATAGTATGATGGCACTGTGCTGAACAGGTAGGTATCGGTTGGTGGATGAACAATGTCACGCTGCCCACTCAAT
      N D K Y D G N C A E Q V G I G W M M N K C H A G H L N
393    GGAGTTTATTATCAAGGTGGCACTTACTCAAAAACATCTACTCTTAATGTTATGATAATGGCATTATTGGGCCACATGG
      G V Y Y Q G G T Y S K T S T P N G Y D N G I I W A T W
421    AATCCCGGTGGTATTCATGAAGAAACACCATGAAGATAATCCCACTTAACAGATGCCATCGGAGAGGACAGCAG
      K S R W Y S M K K T T H K I I P L N R L A I G E G Q Q
449    CACCACTGGGGGAGCCAAACAGGTGGAGTAGAATCAGCTTGAATAGAATATGACTAAGTCATTTTGCCCTGACCT
      H Q L G G A K Q V G V E H H V E I E Y D
477    GTTACTCTGTTAACACACAAACTTCTCGAAATTTTCTCGTTTCTTCTACCGTATTATTAATTTAAGTCTTCT
1375  TTAAGGATATTAGCTCTGAATGGCAATTAACACTCACTTGGACGTATTCCTCAAGTACTAAGACAGAGATTATTATAA
1456  ATTTGTCTATTGATGAGATAAATTTAGCTATTTCCTAATATATAATAAATTGTGATTATTAATAA
1537  ATTTGTCTATTGATGAGATAAATTTAGCTATTTCCTAATATATAATAAATTGTGATTATTAATAA
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1. Sanger, F., Nicklen, S. and Coulson, A.R. (1977) Proc. Natl. Acad. Sci. USA **74**, 5463-5467.
2. Chung, D.W. and Davie, E.W. (1984) Biochemistry **23**, 4232-4236.