
The human genome contains a pseudogene for the $M_r=32\ 000$ laminin binding protein

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Starting from a reported 3' cDNA sequence for a laminin binding protein (1), we have cloned and sequenced full length human and mouse cDNAs (2). The human clone agrees with a recently reported human cDNA for this protein (3). We have now cloned and sequenced a human pseudogene for this protein which shares with the functional mRNA a nucleotide homology of 94.9%, and an amino acid homology in the reading frame of 91.2%. It lacks introns and all the exons are included but it contains two stop codons. The first stop codon is located just before the first intron of the functional gene (in preparation). The lack of introns and the retention of several polyadenylation sequences indicates a reverse transcription origin from a processed mRNA which was probably mediated by a retrovirus.

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1  tcgtaacttaaaggaagcttgc... AAGTCGGAGCCCTGATGTCTCGAAATGAAGGAGGAGGATGCCTTCAGT
76  TCCTTCAGCAGGAACCCACTTAGGTGGACCAATCTTGACTTCCAGATGGAACAGTACATCTATAAAAGGAAAAGTG
155  ATGGCATCTACATCATAAATCTGAAGAGGACCTGGGAGAAGCTTCGGTTGGCAGCTCGTGCCATTGTTGCCATTGAAA
232  ACCCTGGTGATGTCAGTGTATATCTCTGGAACTGGCCAGAGGGCCATGCTGAAGTTTGTCTGCCACTGGAG
310  CCACTCCAATTGCTGCCGCTTCACTCTCGAACCTTCACTACTAGATCCAGGCAGCCTTCCGGAGCCACCGCTTC
388  TTGTGCTTACTGACCCAGGGCTGACCACCGCCTCTCACGGAGGCATCTTATGTTAACCTACCTACCATTTGCCTGT
466  GTAACACAGATTCTCCTCTGTGCTGTGTGGACATTGCCATCCATGCAACAACAAGGGAGCTCACTCAGTGGGTTTGA
544  TGTGGTAGATGCCGGCTCGGGAAGTTTGGCGCATGCGTGACACCATTTCCCATGAACACCCCTGGGAGGTCCTGCCTC
622  AGCTCTGCTTCTACAGAGATCCTGAAGAGATTGAAAAAGAAGAGCAGGCTGCTGCTGAAAAGGCAGTGACCAAAGGAGG
700  AATTTCAGGGTGAATGGACTGCCTCCAGCTCCTGACTGCTACTCAGCCTGAGGTTACAGACTGGTCTGAAGGTG
778  TGCAGGTGCCCTCTGTGCCTATTCAGCAGTTCCCTACTGAAGACTGGAGCACTCACCCTGCCACGGAAAGACTGGTCTG
856  CAGCTCCCactgctcAGGCCACTGAATGGGTAGGAGCAACCACTGAATGGTCTTAAgctgtgcgtgcataggctctta
934  agcacatggaaaaaatggttgatggaataaacatcagtttttcaataaataaataaataaagtaaaattacattgg
1112 catgtatt

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-Fig.1. Coding region is displayed in capital letters. The boxed triplet corresponds to the mutated initiation site of the functional mRNA. Gap of three nucleotides (...). Nucleotides divergent from functional mRNA are underlined (). Termination codons in deduced reading frame of pseudogene are double underlined ().

References.

- (1)-Wewer,U.M.,L.A.Liotta,et al.(1986) Proc.Natl.Acad.Sci.USA., 83:7137-7141
(2)-Segui-Real,B.,Savagner P.,et al: in preparation
(3)-Yow,H.,J.M. Wong,et al (1988) Proc.Natl.Acad.Sci.USA., 85: 6394-6398