

Isolation of cDNA coding for the placental protein 15 (PP15)

Ulrich Grundmann*, Claudia Nerlich, Thomas Rein, Friedrich Lottspeich¹ and Hans A.Küpper

Department of Molecular Biology, Research Institutes, Behringwerk AG, Postfach 1140, 3550 Marburg and

¹Max-Planck-Institute, 8033 Martinsried, FRG

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A cDNA library prepared from human placenta (1) was screened for sequences coding for the placental protein 15 (PP15). This protein is composed of two subunits each with a molecular weight of 15 000 and shows a very poor antigenicity (2,3). This was demonstrated by a significant inhibitory activity on lymphocyte transformation in the mixed leucocyte culture test in vitro.

We used partial amino acid sequence information from PP15 to design oligonucleotide probes for screening one million independent recombinants. Two recombinants with full length cDNA inserts were identified coding for a protein of 127 amino acids and a molecular weight of 14 478. The nucleotide sequence (894 bp) and the deduced amino acid sequence are shown. A putative ribosome binding site is marked by an open circle and the poly(A)-addition site by a closed circle. Peptide sequences determined from cyanogen bromide fragments are underlined. The amino-terminal residue of PP15 is blocked. The amino acid composition described by Bohn is in good agreement with the composition deduced from the cDNA sequence (2).

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10          30          50          70          90          110
GGAAAGGACAGTCGGCCGCGAGACCGCGCTGGGTTGCCCGCTGCCCGCATCGTGCCACGCCCTCGGGTCTCCGTGAGGCCGGGTGACGCTCCAGAATGGGAGACAGCAATTGG
M G D K P I W

130          150          170          190          210          230
GAGCAGATGGATCCAGCTTCATTCAACATTACTACCGAGTTATTTGATAATGATAGAACCCCAACTAGGCGCAATTTACATTCAGCGGTCATGCCTTACGTGGGAAGGACACAGTTCCAG
E Q I G S S F I Q H Y Y Q L F D N D R T Q L G A I Y I D A S C L T W E G Q Q F Q

250          270          290          310          330          350
GGAAAGCGCCATGTGGAGAAGTTGTAGCTTCGGTCCAGAAAATTGAGCAGCATCACCGCGGAGACCATCAGCCCATCGCAGATAGCTGCATCATCAGCATGGTTGTGGCC
G K A A I V E K L S S L P F Q K I Q H S I T A Q D H Q P T F D S C I I S M V V G

370          390          410          430          450          470
CAGCTTAAGGCGGATGAAGACCCCATCTGGGTTCCACCCAGATGTTCTATTAAAGAACATCAACGATGCTGGGTTTGACCAATGATGTCAGGCTCGCCCTGCACCACTTTGGC
Q L R A D E D P I N G F H Q N F L L K N I N D A W V C T N D H F R L A L H N F G

490          510          530          550          570          590
TGACCTCCTCAGTAGGCACTCAGCGTGTTCCTCCTCCTCCTCTCCCAATACTATTCCTCCCTCCAGATGCTCCAAATATCATGCACAAATGAGCAGGCGCGGTGGGAGTG
610          630          650          670          690          710
GGCCAGTCCGCTGCTGCCATGAGGTGTGTGCATGATGTTGGATGCTAGTGTGCATCTGACGGGAGAAAGTTGTGTGTGTACACAGCCATGCCTTGGAAAGACTTAAGTAATGC
730          750          770          790          810          830
AAAAGGTTGCTCTTTTTTTTTTTTTTTTTTTTTTTTAACTACTGACAAAGTTGCTCTAGTAACCCAAAGAAGTGAAGGAGAAAGCAGCTGCCTCACCGCCAGACATTGATTTGTCAGATG
850          870          890
TTTCAATGCCTCATGATACAATAAAACCAAAAAATTTTCTTAAACAAAAA
    
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*To whom correspondence should be addressed

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