Nucleotide sequence of a cloned rice genomic DNA fragment that encodes a 10 kDa prolamin polypeptide

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The rice prolamin fraction contains 10, 13 and 16 kDa polypeptides (1). cDNA sequences that encode 10 and 13 kDa prolamin polypeptides have been reported recently (2, 3). Here we report the sequence of a rice genomic DNA fragment that encodes the 10 kDa prolamin polypeptide. This genomic DNA clone was isolated from a rice λ EMBL phage library from Clontech Laboratories Inc. by probing with a 10 kDa rice prolamin cDNA. The nucleotide sequence (1547 bp) of the genomic clone and the inferred amino acid sequence (134 residues) of 10 kDa prolamin polypeptide are shown below. The nucleotide sequence exactly matches the cDNA sequence (2) in the transcribed region. Putative TATA Box and polyadenylation sites are underlined.

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CTGCAGTGATCGCTGCACTGGATAATTATAATATCAGTTAA      41
AATTGAAAATAATGCAACTTCATACTTGCATGGTGTCTAGTAGTGCCTGCTAAGAAATGTGTCTTGTGCATAATATGATTACATGAAATATGTTTACTTCC      141
TGGTTTCTCTTTATTTGTAAAGATAAAGAACTAGATATGTGGAAGTAGGATAGCAAGAGATATGGCCAACTCTAATCTTTGCTTTATTTTTTGGGATGG      241
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GTATGTATGCTATTAAGGCACATTACAAAGCTCCAAGTTTACCTACTCAATCATTACATATGGCGATGACTCAAACCTCTTAATTGTTATCTGTGTAAAG      441
CTGTGACTTGTGTAAACACATTCTACAAGTCCCATACGAATTCTGTTACAAAAGTTTCTTTGTCCAGCTCATAATTTACAAAACCTGCAAAATGCCAAAGC      541
AATCTGGCACAACCTTATCATCATATTTTCTTTCCACGCATTAAAGCACTGGCAGAATTATCTTTGTGTAGATATTTCCAAAAGTATTGGTTGAATAAATG      641
TCCAAATAAATTCATGCCCTCATGATTTCAGCTTATGTGGCTCCACTAGGTGGTTTGTCAAAGGCCAACTCTTTCTGGCTTACACAGCTACCAGCA      741
TGATAAATAGGCCCCTAGGCAACCATATTCCATCATCTCAACAATATTGTCTACACCATCTGGAATCTGTGTTAACACTAGTATTGTAGAATCAGCA      841
ATGGCAGCATACACCAGCAAGATCTTTGCCCTGTTGCCTTAATTGCTCTTTCTGCAAGTGCCACTACTGCAATCACCCTATGCAGTATTTCCACCAA      941
M A A Y T S K I F A L F A L I A L S A S A T T A I T T M Q Y F P P T      34
CATTAGCCATGGGCACCATGGATCCGTGTAGGCACTACATGATGCAACGTTGGGCATGGGTAGCTCCACAGCCATGTTTCATGTCGAGCCCAATGGCGCT      1041
L A M G T M D P C R Q Y M M Q T L G M G S S T A M F M S Q P M A L      67
CCTGCAGCAGCAATGTTCATGCAGCTACAAGGCATGATGCCCTCAGTGGCAGCTGTCGACCATGTCGAGATGTCAGAGCATGCAACAAGTTATTTGT      1141
L Q Q Q C C M Q L Q G M M P Q C H C G T S C Q M M Q S M Q Q V I C      100
GCTGGACTCGGGCAGCAGATGATGAAGATGGCGATGCAGATGCCATACATGTGCAACATGGCCCTGTCAACTTCCAACTCTCTTCTGTGGTTGTT      1241
A G L G Q Q Q M M K M A M Q M P Y M C N M A P V N F Q L S S C G C C      134
GTTGATCAAACGTTGTTACATGTAAGTGTGCTAGTAAAGGTGTTGCATACATCGTGTGCAAACTAGAAATAAGAACCATTGAATAAATATCAATCAT      1341
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TGATCA      1547

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