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**Nucleotide sequence containing the maize chloroplast proline (UGG) and tryptophan (CCA) tRNA genes**


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Jean H. Lukens and Lawrence Bogorad

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The Biological Laboratories, Harvard University, Cambridge, MA 02138, USA  
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We present the nucleotide sequence of the maize chloroplast proline (UGG) and tryptophan (CCA) tRNA genes, which are situated together on Bam HI fragment 15' (1). The adjacent genes are separated by 138 bp and are organized similarly to their counterparts in tobacco, pea, and wheat chloroplasts (2,3,4) and wheat and maize mitochondria (4).

Both genes have 97-99% similarity to the respective genes of wheat, pea, and tobacco. The intergenic regions of corn and wheat chloroplast genes have 82% sequence identity, as compared to 40-50% identity of either monocot intergenic sequence with that of pea or tobacco. Despite the extensive monocot-dicot and mitochondrial-chloroplast (4) intergenic sequence divergence, there is a nucleotide hexamer (positions 205-210) which is found 20-29 bases 3' to the trnP gene in published sequences of all similarly arranged organellar proline (UGG) and tryptophan (CCA) tRNA genes.

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                                     75
CAAGAAATGACAAGAAAGTCTATATGGATAAAGAAATAGAAGAAATACGATGTGGAAAACAAGAAAGGAATT
                                     trnP-UGG                                     150
GTGTACAATGGCATTGTACAACAATTTGGAAAAGGGATGTAGCCGACCTTGCTAGCCGGTTTGTTTGGGTACAA
                                     225
AATGTCACAGGTTCAAATCCTGTGCATCCCTA CCTATTAATTCTCTCTTGGTTATGCGCAGTA GTGGGGAGATCGA
                                     300
TTAAAGTGGGTATAACTTGAATTTGTGGATACTATACGGACGTGAGACACGTTAGGAATAGAAAAGGATTTTCTT
                                     trnW-CCA                                     375
TTTTTTTTTTGTTTTGAAAGCGCTCTTAGTTCAGTTTGCTAGAACCGCGGTCTCCAAAACCCGATGTCGTAGGTT
                                     450
CAAATCCTACAGCGCTGATTCCATATATCTTATGTCGAAACTAAAATAA CTAAAAAAAACAAAGTAGAATTG

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**Figure legend.** Boxed sequence at nucleotides 52-67 is conserved in this position 5' of corn, tobacco, and pea chloroplast trnP genes. The boxed hexanucleotide at position 207-212 is found in the intergenic region of the paired tRNA genes in both chloroplasts and mitochondria of pea, tobacco, wheat and corn. Boxed sequence at nucleotides 416-425 is largely conserved in the 3' region of all chloroplast and mitochondrial trnW genes except that in the tobacco chloroplast. Underlined sequences resemble those found upstream of wheat mitochondrial tRNA genes(5).

**References:** (1) Larrinua et al. (1983) Plant Mol Biol 2: 129-140. (2) Ohme M. et al. (1984) NAR 12:6741-6749. (3) Lehmbeck, J. et al. (1987) NAR 15:3630. (4) Marechal, L. et al. (1987) Curr Gen 12: 91-98. (5) Joyce, Paul B.M. et al. (1988) NAR 16:1210.