Both histone H4 genes of *Physarum polycephalum* are interrupted by an intervening sequence

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We have cloned and sequenced the second histone H4 gene (H42) of *Physarum*. The nucleotide sequence of the H42 and H41 (reported in FEBS Letters, 1984, 168, 249-254) genes are compared. The aminoacid sequence of the H4 protein inferred from the DNA sequence is identical for both genes but there is only 87% homology of the nucleotide sequence. Both genes are interrupted by a small intervening sequence (IVS). For both genes the sequence GTATC is directly repeated at the junction of the IVS. Thus the coding sequence can be interrupted at 6 positions. If the interruption is made between the first and the second nucleotide of codon 45 of the coding sequence, the IVS will contain the classical mRNA splice junction sequences 5' GT, AG 3'. Therefore the conclusion seems to be justified that the IVS which interrupts the histone H4 genes is an intron which must be removed from the precursor mRNA for proper expression.