

Nucleotide sequence of a fungal plasmid-like DNA containing the mitochondrial ATPase subunit 6 gene

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We have determined the sequence of an autonomously-replicating circular DNA element from mitochondria of strain T40 of the maize pathogen *Cochliobolus heterostrophus* (1), a filamentous Ascomycete. The sequence was determined by the dideoxy method, using subclones in M13mp10 and mp11. Sequence analysis with Microgenie (Beckman) revealed the presence of the complete gene encoding subunit 6 of the mitochondrial ATPase complex. The ATPase 6 ORF extends between bases 307 and 1080 of the sequence presented below, which is numbered starting from the first base of the unique BamHI site. We have published additional analysis of this plasmid-like DNA elsewhere (2).

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+1   GGATCCATAA  GTTTTATAGT  TAGATGAATA  ATTCACCTAT  AAACITTTTC
+51  CAGAATAAAT  TAAGGGGTAA  TTTTACTAT  TTTTATTATC  AATAAAAAAG
+101 ATGTGTAATA  GGGGAGTTCG  AATCTCTCTA  TTCTGATAAT  GCTATTCAAC
+151 TCATTAAATTT  TATTACTTTT  ATCTAATGCC  ATTACGTCAA  GACGGGACCC
+201 GAAATAGGAT  TAAATATTTT  CCCCTAAAAC  CCCCCCCCCT  CCCCCCTAAG
+251 CTGCGAGGGG  GGGAAAAAAA  CTAATTTTAT  ACTTATAGTA  AAACATAATA
+301 TTATATATGT  TTAAATATCA  AACAAATTA  AGCCCTCTTG  ACCAAITTTG
+351 AATAAGAAAC  TTATTTAGTA  TAGATACACC  ATTATAGCAA  AAATATGAAC
+401 TATCTAATAC  TAATATAGGG  TTATATATGA  CTATAGCTGC  TTTCATAGCT
+451 TTCTATTTTA  GTATTTTAGC  TACTAACCAC  TCAAAAATTA  CTCCAAACAA
+501 ATGATCTTTA  AGTCAAGAAA  CATATATGCT  AACATACACC  AGTATTGTTG
+551 TAAACCAAA  TAACAACAAA  AATGGGCAAG  CTTACTTCCC  ATTTATGTAC
+601 ACATTATTTA  TTTTATTTT  AATAAATAAC  TTAATAGGAA  TGGTTCCCTA
+651 TAGTTTTGCC  TCAACATCTC  ATTTTATATT  AACATTCTCA  CTTAGTTTTA
+701 CTGTTGTATT  AGGTGCAACA  GTTTTAGGAT  TCAAGAACA  CGGATTAATA
+751 TCTTTTTCTT  TATTTGTTC  AGCTGGTGT  CCATTAGGAT  TATTACCTTT
+801 ACTGTATTA  ATTGAATCA  TTTCATACTT  AGCTAGAAT  GTATCTTTAG
+851 GATTAAGATT  AGCAGCCAAC  ATATTATCAG  GTCACATGCT  TTTAAATATC
+901 TTAAGTGGAT  TTACATACAA  TATTATGAGT  TCTGGTATCA  TTTTCTTTAT
+951 TCTAGGATTA  TTACCATTAG  CCTTATAAT  TGCATTCTCT  GGATTAGAA
+1001 TAGGTATTGC  CTTTATACAA  TCACAAGTAT  TTGTGGTATT  ATCTTGTTC
+1051 TACATTAAG  ATGCACTAGA  ATTACATTAG  AGGTATATTA  CCTTTATTTT
+1101 CTACCCCTGC  GGTTCCTTTA  GGAACCTTAA  GGGGTGCCCT  AACTTTTTTT
+1151 ACATATATTA  TGATATATTA  AAAAAGTAA  AGGGAAGAA  TTAGACTTTT
+1201 TGACCTTTTA  AGGAGTCTTA  TACAATAGAA  AAAAAGGGGT  GTGTTGCATA
+1251 CGGCTATGCA  TTTTGATTGC  AGATCATAAA  TATAAGGTT  AACTCCTTAT
+1301 TATACTTATG  TACAGAACAT  ATCATAAACC  AACTTTTATA  TAAAACAATT
+1351 ACTAAAATAT  AGTACAGAAC  ATATCATAAA  CCAACTTTTA  TATAAACTT
+1401 AAAAAAATA  TAGTAGTATA  AAAAAATTA  AACATAAAA  AAATATAGTA
+1451 CAATATAAGA  CATTATAAGT  CAACAGCTAG  CTTAATTATG  AAGTAAATTA
+1501 ATTTATTTTA  TAAACATGTG  TGGATCATT  GACAAAGGAA  AAGGTAAACA
+1551 GAATATACT  GAAAATAACT  TTGACAAGG  AAAAGGTAAA  CAGAAGATA
+1601 CTGAAAATAT  TTTTGACAAA  GATACGTCAG  AAAATTATTC  ATTGTCTTCA
+1651 GTGGAACACG  ATTACCCTTT  AGATTTACAA  AATGATAACG  TGTTCAAATA
+1701 GCAATTTGAG  AATCACTAAA  AGATAGCATG  AATATTAACA  ATGGAGAATC
+1751 ATCTAAAAGC  TCTAAAAGA  GGAGATCCA  CTA AAAAGGG  GGAATCCTCT
+1801 AAAAAGGGAG  AAATCTATA  AAAGGGG

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REFERENCES

- (1) Garber RC, Turgeon BG and Yoder OC (1984) *Mol. Gen. Genet.* 196: 301-310.
- (2) Garber RC, Lin JJ and Yoder OC (1986) Pp 105-118 in *Extrachromosomal Elements in Lower Eukaryotes*. Wickner RB et al., editors. Plenum Press, NY.