Nucleotide sequence of the 5'-flanking region of the murine ornithine decarboxylase gene

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We have sequenced a 1674-base-pair Pst I fragment (-1658 to +16, relative to the transcription start site) from the 5'-flanking region of the mouse ornithine decarboxylase (ODC) gene, isolated from a genomic library of BALB/c mice (generously provided by Dr. J. V. Ravetch). Previously, Brabant et al. (1) and Katz and Kahana (2) have reported sequences for the 5'-flanking region of this gene, up to position -364 and -536, respectively. Our sequence, shown below, is identical with that reported by Brabant et al. (1); sequence dissimilarities with Katz and Kahana (2) are denoted by solid underlines. The sequence from -537 to -1658 of the mouse ODC gene has not been reported previously. Several potential transcriptional control elements are present in this gene (dotted underlines), including 3 AP-1 binding sites containing the characteristic TGAXTCA motif (3), and 2 estrogen-response elements containing a single nt mismatch within the characteristic palindromic sequence (4). Comparison with the rat ODC 5'-flanking region (5) revealed several areas of high sequence similarity, most notably a 91.8% identity in a 377 nt overlap in the sequence immediately adjacent to the transcription start site in both genes.

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-1658  CTGCAGAAGCCATGATTCAGGGAGAAGTGAATCACTCGTTCTTTCATTCACTCATTCAACAAATATCTATGGACTATGAC
-1578  CCAGGCTTGGAAGTGTGTACTAAGGTTTTTCCTCCCAGGACTTTGTGGTTGTAAAAGACCCTTGGGTACATGAGACCAAG
-1498  GCTTGCACAAAACTGCACAACAGTTTGGGAGTGGAGCTGGGTTGTGGATTTTCTCTAGGGACCTCTGGAGAAAAGCCAGT
-1418  GGGGTTTGTTTGTTTGACTTTGTTTTGTGATAGGGTCTCACTATGTAGCCGTGGTTGGTCTGGAACTCTTTGTAGACTAT
-1338  ACTGGTCTCAAACTTAAGAGATTTAGCTGGTCAGAGAAGGAACATACCTTTAATCCCAGCATTCTTGAGGCAGAGGCAGG
-1258  TAGAGTTCCACTAAAGCCAGGGCTAAACTGAGAGGCCAGGTCTCAAAAACAAACCACCCAAACCAAACAAAACCAAATA
-1178  AACAAAAGCCTGCCTCTGCCTGAGTACTGGGATTAAAGGTGTGGGTCATCTGGCCCTGCTCAGGCCCTTGAAAAGCTTCA
-1098  AGTTTTTTCCTTTGCTGTGATTCAAGTTAGTTTTTTGGTACTGCTATGGTATCTCAACGTCTGGGCTGGGAGAGGGGTTT
-1018  TAACTGAGAATTAACAAACCATTAACATCGTATACATAGTATACATAGTAACAAATTGTAGTGTTCGTGTGTTTTTCCAA
- 938  TACTGAATATGTAAGTCAGTCCCACTTGTTCTTTAACAATGTAACTTTGGTGGATACAAATTTACTGCCCAGACTCTGTT
- 858  CGCATTCAGGCTTCTCAAAGTTGTAGCTACCCTGAAAGACAGAATAAGAGAGACAGCCGGTGGCTGTCCACCACCTCTTA
- 778  CCTTGTCCCTAACACGCCTTTCAATACGACCCTTGCTTAGATAGAAGGCGTACTTAGCATGCAACTGATGCCTAACATCT
- 698  AGTTGGAAGCCAGCAACATAACACGGAGTGGCCGGGTCAGCCTCCGCGGGCTTGTCTCTCAGCAAGCTTTCAGGCTTAGG
- 618  CATACAGGGTCGTGATGCAGGGTCAGTCTGCGCCACCAAGTCTAGTCTATGTGGCCGGCGCACAGCTCACGGCCCATCCA
- 538  TCCTCCGCTTGCATCTGCGATACGCCTGCCCCGCTAGGGAATACCACCCCCTGAATGGAAAGCCGAGGAAGAATTTTGCT
- 458  AGTCTTCCAGGTCTGGGTTCAGCCGTTAGGACCTGGAGAGGGGGAAGAGGTTGTGTGCCTAGGCGGAGAGGTAGGGGGCG
- 378  AGAGACTGGCGACCAGGTACATGTGCGCATGCACCAGCCGACTCCCGCCCGCTGCCCATAGGGCCCTGCGGCATGCTGGC
- 298  AGCCAGGACTGGTGGTGTGGTGCGCGTGCGCAGGCCTGCCGCAGGGCGTGTCCGACACGAGGCCGGCGGGGAGCGCGGG
- 218  GCGTATGGGCGGGTGGGTGGGCACGCGCTGCGCCCCGCCCCACTGACGCGCCCGGCCCGCGTCCCGCCTCCGGCGCCGG
- 138  GACCCGGGTTGGCCGCCACGGAGTCCCCGCCCCTCCCCCGCGCCTCCCGGCCGGAACCGATCGCGGCTGGTTTGAGCTGG
-  58  TGCGTCTCCATGACGACGTGCTCGGCGTATAAGTAGCGGCGCGTCGCACCGTCGGGCTTTGTCAGTCCCTGCAG
                                                                                +1
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