

Sequence of the gene for alkaline phosphatase from *Escherichia coli* JM83

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AGCGTTGGAGATTATCGCTACGCACTGCACTTCGGCAATATGGCGCAAAATGACCAACAGCGGTTGATTTGATCAGGTAGAGGGGGCGCTGTACGGGTAAAGCCCGATGCCAGCATTCCTG
120
ACGACGATACGGAGCTGCTGCCGATTACGTAAGAAGTTATTGAAGCATCCTCGTCAGTAAAAAGTTAATCTTTTCAACAGCTGTCTATAAAAGTTGTCACGCCCGAGACTTATAGTCGCT
240
TTGTTTTTATTTTTTAAATGTTATTTGTACATGGAGAAAATAAAAGTAAACAAAGCACTATTGCCACTGGCCACTTACCGTTACTGTTTACCCCTGTGACAAAAGCCGGACACGAGAAAATG
360
CTGCTTGGAAAAACCGGCTGCTCAGGGCGATATTACTGCACCCGGCGTCTGCCGTTTAAACGGGTGATCAGACTGCCGCTCTGCGTATTCTCTTACGATAAACCTGCAGAAAAAT
480
ATTATTTGCTGATTGGCGATGGGATGGGGGACTGGGAAATTTACTGCCCGCAGTAAATATGCCGAAAGTTCGGGGCGCTTTTTTAAAGTATAGATGCCTTACCGCTTACCGGCAATAC
600
ACTCATATCGCGTGAATAAAAAACCGCGCAACCGGACTACGTCACCGACTCGGCTGCATCAGCAACCGCTGGTCAACCGGTGTCAAAACCTATAACGGCGCGCTGGCGCTCGATATT
720
CAGGAAAAAGTACCCAAACGATTCGGAAATGGCAAAAGCCGAGGCTCTGGCGACCGTAAAGCTTCTACCGCAGAGATGGCAGGATGCCACGCCCGCTGGCGCTGGCACATGTGACC
840
HEEDDEPFTILENAAEAAGLGLTGNVSTAELELQDATYPAALVAVNV
960
TCGGCAATGCTACGGTCCGAGCCGCAACCAAAAAATGTCGGGTAAACGCTCTGGAAAAAGCCGAAAAAGGATCGATTACCGAACAGCTGCTTAAACGCTGTCGCCAGCTTACCGTT
1080
GCGCGCGCGCAAAAACCTTTGCTGAACCGCAACCGCTGGTGAATGGCAGGGAAAAACCGCTCGGTGAACAGGACAGCGCGGTGATCAGTTGGTGGACGATGCTGCCACTGAAAT
1200
TCGGTACGGAAGCGAATCAGCAAAAACCCCTGCTTGGCTGTTTCTGACGGCAATATGCCAGTCCGCTGGCTAGGACCGCAAAAGCAACCTACCATGCAATATCGATAAGCCCGCAGTC
1320
ACGTGTACGCCAAATCCGCAACGTAATAGCAGTGTACCAACCTGGCGCAGATGACCGCAAAAGCCATTGAATTTGAGTAAAAAATGAGAAAAGGCTTTTTCTGCAAGTTGAAAGTCCG
1440
TCAATCGATAAACAGGATCATCTGCCGAATCCTTGGCGAAATGGCGAGACGGTTCGATCGATGAAGCCGTACAACGGCGCGTGGAAATTCGCTAAAAAGGAGGGTAAACACCGCTGGTC
1560
ATAGTACCGCTGATCACCGCCACGACGAGATTTGTCGCCGATATACCAAGCTCCGGCCCTACCCAGCGCTAAATACCAAAAGATGGCGCAGTGTGTGTGATGATGATGATGATGATGATG
1680
TCGGAAGAGGATTACAAAGAACATACCGCGAGTCAAGTTGCGTATTGGCGCGATATGGCCGATGCCGCCAAATGTTGTTGGACTGACCGACCGACCGCATCTCTTACACCATGAAAGCC
1772
GCTCTGGGCTGAAATAAAACCGCGCCCGCGAGTGAATTTTCGCTGCCGGTGGTTTTTTTCTGTTAGCAACCGACTTAATGGCAGATCA
A L G L K *

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Figure Legend. The alkaline phosphatase gene of *E. coli* JM83 (Vieira, J. and Messing, J. 1982, Gene. 19, 259-268) was cloned as a 2.7 kb XhoI-HindIII fragment into pUC8 utilising a 17 mer oligonucleotide, synthesised on the basis of the data of Kikuchi et al. 1981, Nucleic Acids Res. 9, 5671-5678. Nucleotide sequencing was by the dideoxy method. Determination of the sequence on both DNA strands was achieved by using a combination of both site directed cloning into M13 mp8 and mp9, and employing specific synthesised oligonucleotides as primers. The illustrated region extends 1772 bp from the cloned HindIII site (position 1). The translated amino acid sequence differs from that obtained by protein sequencing (Bradshaw et al. 1981, Proc. Natl. Acad. Sci. 78, 3473-3477) at positions 16 and 36 (Asp for Asn), and at position 177 (Glu for Gln). The putative promoter region (-35 and -10), Shine-Delgarno sequence and transcription termination region (facing arrows) have been marked.