

Sequence of a cDNA specifying subunit VIIc of human cytochrome *c* oxidase

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Human cytochrome *c* oxidase (COX) is composed of 13 subunits, 3 of which are encoded by mitochondrial DNA, while 10 are encoded by nuclear DNA (1). Using a cDNA specifying bovine COX subunit VIIc (2), we screened a human skeletal muscle cDNA library in lambda gt10 (a gift of F. Walsh). The insert of the longest positive clone (pCOX7.183; sequence below) was 334 bp long, excluding the flanking EcoRI linkers and the 12-nt poly(A) tail. The deduced presequence of human subunit COX VIIc contains 16 amino acids, and is identical to that of bovine VIIc (2). The mature polypeptide is 47 amino acids long, and is 84% identical to that of bovine COX VIIc (2, 3). Nucleotide numbering (in parentheses) and amino acid numbering (in brackets) is at right; amino acids in the deduced polypeptide that are different from those in bovine VIIc are underlined; the polyadenylation signal is overlined; the flanking EcoRI linkers are in brackets; and the cleavage site of the deduced presequence is indicated by a dot.

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[GAATTCC] GCAGAGCTTCCAGCGGCT (18)

ATGTTGGGCCAGAGCATCCGGAGGTTCAACCTCTGTGGTCCGTAGGAGCCACTATGAGGAGGGC (84)
M L G Q S I R R F T T S V V R R S H Y E E G [+6]

CCTGGGAAGAATTTGCCATTTTCAGTGGAAAAACAAGTGGTCGTTACTAGCTAAGATGTGTTTGTAC (150)
P G K N L P F S V E N K W S L L A K M C L Y [28]

TTTGATCTGCATTTGCTACACCCTTCCTTGTAGTAAGACACCAACTGCTTAAAAACATAAGGATGT (216)
F G S A F A T P F L V V R H Q L L K T * [47]

TTCAGTTCCTCCATTTAACAGATATGAAGAGCATTTTAAGAGGTGCAGCCTCTGGAAGTGGATCAA (282)

ACTAGAACTCATATGCCATACTAGATATGTTGTCAATAAACTTATGACGTG - AAAAAAAAAA (334)

A [GGAATTC] (334)

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