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cDNA sequence coding for human glutathione peroxidase

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cDNAs encoding human glutathione peroxidase were isolated from a liver library prepared as described (1) by hybridization with a synthetic oligonucleotide (shown with the closed bar) to the 5' and 3' ends of the mouse genomic DNA sequence reported elsewhere (2). The sequence of 1134 bp minus the poly A tail of the longest cDNA clone is presented below with the predicted amino acid sequence. An asterix indicates the selenocystein at the position of the in-frame TGA codon. Comparison of our data with those of mouse (2) revealed 84% homology at the nucleotide level and 87% homology at the amino acid level.

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CGACCCCTCGAGGGGCCCAGCCTTGGAAGGGTAACTGGACCGCTGCCGCCTGGTTGCCTG    60
GGCCAGACCAGACATGCCTGCTGCTCCTTCCGGCTTAGGAGGAGCACGCGTCCCGCTCGG   120
GCGCACTCTCCAGCCTTTTCCTGGCTGAGGAGGGGCCGAGCCTCCGGTAGGGCGGGGGCC   180
GGATGAGGCGGGACCTCAGGCCCGGAAAACTGCCTGTGCCACGTGACCCGCCGCCGGCCA   240
GTTAAAAGGAGGCGCCTGCTGGCCTCCCCTTACAGTGCTTGTTCGGGGCGCTCCGCTGGC   300
                  M  C  A  A  R  L  A  A  A  A  A  Q  S  V     13
TTCTTGGACAATTGCGCCATGTGTGCTGCTCGGCTAGCGGCGGCGGCGGCCCAGTCGGTG   360
 Y  A  F  S  A  R  P  L  A  G  G  E  P  V  S  L  G  S  L  R     33
TATGCCTTCTCGGCGCGCCCGTTGGCCGGCGGGGAGCCTGTGAGCCTGGGCTCCCTGCGG   420
 G  K  V  L  L  I  E  N  V  A  S  L  *  G  T  T  V  R  D  Y     53
GGCAAGGTACTACTTATCGAGAATGTGGCGTCCCTCTGAGGCACCACGGTCCGGGACTAC   480
 T  Q  M  N  E  L  Q  R  R  L  G  P  R  G  L  V  V  L  G  F     73
ACCCAGATGAACGAGCTGCAGCGGCGCCTCGGACCCCGGGGCCTGGTGGTGCTCGGCTTC   540
 P  C  N  Q  F  G  H  Q  E  N  A  K  N  E  E  I  L  N  S  L     93
CCGTGCAACCAGTTTGGGCATCAGGAGAACGCCAAGAACGAAGAGATTCTGAATTCCCTC   600
 K  Y  V  R  P  G  G  G  F  E  P  N  F  M  L  F  E  K  C  E    113
AAGTACGTCCGGCCTGGTGGTGGGTTCGAGCCCAACTTCATGCTCTTCGAGAAGTGCGAG   660
 V  N  G  A  G  A  H  P  L  F  A  F  L  R  E  A  L  P  A  P    133
GTGAACGGTGCGGGGGCGCACCCTCTCTTCGCCTTCCTGCGGGAGGCCCTGCCAGCTCCC   720
 S  D  D  A  T  A  L  M  T  D  P  K  L  I  T  W  S  P  V  C    153
AGCGACGACGCCACCGCGCTTATGACCGACCCCAAGCTCATCACCTGGTCTCCGGTGTGT   780
 R  N  D  V  A  W  N  F  E  K  F  L  V  G  P  D  G  V  P  L    173
CGCAACGATGTTGCCTGGAACTTTGAGAAGTTCCTGGTGGGCCCTGACGGTGTGCCCCTA   840
 R  R  Y  S  R  R  F  Q  T  I  D  I  E  P  D  I  E  A  L  L    193
CGCAGGTACAGCCGCCGCTTCCAGACCATTGACATCGAGCCTGACATCGAAGCCCTGCTG   900
 S  Q  G  P  S  C  A ter                                       200
TCTCAAGGGCCCAGCTGTGCCTAGGGCGCCCCTCCTACCCCGGCTGCTTGGCAGTTGCAG   960
TGCTGCTGTCTCGGGGGGGTTTTCATCTATGAGGGTGTTTCCTCTAAACCTACGAGGGAG  1020
GAACACCTTGATCTTACAGAAAATACCACCTCGAGATGGGTGCTGGTCCTGTTGATCCCA  1080
GTCTCTGCCAGACCAAGGCGAGTTTCCCCACTAATAAAGTGCCGGGTGTCAGCA        1134
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Refs 1. Okayama,H. and Berg,P.(1982) Mol. Cell Biol.2,161-171.
2. Chambers,I. et al.(1986) The EMBO J.5,1221-1227.

