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Nucleotide and deduced amino acid sequence of rat complement C3

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We isolated and sequenced a cDNA clone of rat complement C3. It contains an open reading frame of 4989 nucleotides which encodes a protein of 1663 amino acids, including a signal peptide of 24 residues. Rat C3 has 90% and 78% identity at the amino acid level with mouse (1) and human (2) C3, respectively.

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CTACCCCTTACCCCTCACTCCTTCCACCTTTGTCCTTTACCATGGGACCCACGTCAGGGTCCCAGCTACTAGTGCTACTGCTGCTGTTGGCCAGCTCCCTGCTAGCTCTGGGGAGCCCCA  120
                                                   M  G  P  T  S  G  S  Q  L  L  V  L  L  L  L  L  A  S  S  L  L  A  L  G  S  P    24
TGTACTCCATCATTACTCCCAATTGTCCTGCGGCTGGAGAGATGAAGAGACTTTCATACTAGAGGCCCATGATGCTCAGGGTGACGTCCCAGTCACTGTCACTGTGCAAGACTTCCTAAAGA  240
N  Y  S  I  I  T  P  N  V  L  R  L  E  S  E  E  T  F  I  L  E  A  H  D  A  Q  G  D  V  P  V  T  V  T  V  Q  D  F  L  K    66
AGCAAGTGCTGACCAGTGAGAAGACAGTGTTGACAGGAGCCACTGGACATCTGAACAGGGTCTTCATCAAGATTCCAGCCAGTAAGGAATTCAATGCAGATAAGGGGCACAAGTACGTGA  360
K  Q  V  L  T  S  E  K  T  V  L  T  G  A  T  G  H  L  N  R  V  F  I  K  I  P  A  S  K  E  F  N  A  D  K  G  H  K  Y  V   108
CAGTGGTGGCAAACTTCGGGGCAACAGTGGTGGAGAAAGCGGTGCTAGTAAGCTTTCAGAGTGGTTACCTCTTCATCCAGACAGACAAGACCATCTACACCCCAGGCTCCACTGTTTTCT  480
T  V  V  A  N  F  G  A  T  V  V  E  K  A  V  L  V  S  F  Q  S  G  Y  L  F  I  Q  T  D  K  T  I  Y  T  P  G  S  T  V  F   148
ATCGGATCTTCACTGTGGACAACAACCTATTGCCTGTGGGCAAGACAGTCGTCATCGTCATTGAGACCCCGGACGGCGTTCCCATCAAGAGAGACATTCTATCTTCCCACAACCAATATG  600
Y  R  I  F  T  V  D  N  N  L  L  P  V  G  K  T  V  V  I  V  I  E  T  P  D  G  V  P  I  K  R  D  I  L  S  S  H  N  Q  Y   188
GCATCTTGCCTTTGTCTTGGAACATTCCAGAACTGGTCAACATGGGGCAGTGGAAGATCCGAGCCTTCTATGAACATGCACCAAAGCAGACCTTCTCTGCAGAGTTTGAGGTGAAGGAAT  720
G  I  L  P  L  S  W  N  I  P  E  L  V  N  H  G  Q  W  K  I  R  A  F  Y  E  H  A  P  K  Q  T  F  S  A  E  F  E  V  K  E   228
ACGTGCTGCCCAGTTTCGAAGTCCTGGTGGAGCCTACAGAGAAATTTTATTACATCCATGGACCAAAGGGCCTGGAAGTTTCCATCACAGCCAGATTCCTGTATGGGAAGAACGTGGACG  840
Y  V  L  P  S  F  E  V  L  V  E  P  T  E  K  F  Y  Y  I  H  G  P  K  G  L  E  V  S  I  T  A  R  F  L  Y  G  K  N  V  D   268
GGACAGCTTTCGTGATCTTTGGGGTCCAGGATGAGGATAAGAAGATTTCTCTGGCCCTGTCCCTCACCCGCGTGCTGATCGAGGATGGTTCAGGGGAGGCAGTGCTCAGCCGAAAAGTGC  960
G  T  A  F  V  I  F  G  V  Q  D  E  D  K  K  I  S  L  A  L  S  L  T  R  V  L  I  E  D  G  S  G  E  A  V  L  S  R  K  V   308
TGATGGACGGGGTACGGCCCTCCAGCCCAGAAGCCCTAGTGGGGAAGTCCCTGTACGTCTCTGTCACTGTTATCCTGCACTCAGGTAGCGACATGGTAGAGGCAGAGCGCAGTGGGATCC 1080
L  M  D  G  V  R  P  S  S  P  E  A  L  V  G  K  S  L  Y  V  S  V  T  V  I  L  H  S  G  S  D  M  V  E  A  E  R  S  G  I   348
CAATTGTCACTTCCCCGTACCAGATCCAGATCCACCAAGACACCCAAATTCTTCAAGCCAGCCATGCCTTTCGACCTCATGGTGTTTGTGACCAACCCTGATGGCTCTCCAGCCCGAAGAG 1200
P  I  V  T  S  P  Y  Q  I  H  F  T  K  T  P  K  F  F  K  P  A  M  P  F  D  L  M  V  F  V  T  N  P  D  G  S  P  A  R  R   388
TGCCAGTAGTCACTCAGGGATCCGACGCGCAGGCTCTCACCCAGGATGACGGTGTGGCCAAGCTGAGCGTCAACACACCCAACACCGCCAACCCCTGACTATCACGGTAAGCACCAAGA 1320
V  P  V  V  T  Q  G  S  D  A  Q  A  L  T  Q  D  D  G  V  A  K  L  S  V  N  T  P  N  N  R  Q  P  L  T  I  T  V  S  T  K   428
AGGAGGGTATCCCGGACGCGCGCAGGCACCAGGACGATGCAGGCCCAGCCCTACAGCACTATGCACAATTCCAACAACTACCTGCACTTGTCAGTGTCTCGGGTGGAGCTCAAGCCTG 1440
K  E  G  I  P  D  A  R  Q  A  T  R  T  M  Q  A  Q  P  Y  S  T  H  H  N  S  N  N  Y  L  H  L  S  V  S  R  V  E  L  K  P   468
GGGACAACCTCAATGTCAACTTCCACCTGCGCACGGACGCTGGCCAAGAGGCCAAGATCCGATACTACACCTATCTGGTTATGAACAAGGGGAAGTTACTGAAGGCAGGCCGTCAGGTTC 1560
G  D  N  L  N  V  N  F  H  L  R  T  D  A  G  Q  E  A  K  I  R  Y  Y  T  Y  L  V  N  N  K  G  K  L  L  K  A  G  R  Q  V   508
GGGAGCCTGGCCAGGACCTGGTGGTCTTGTCACTGCCCATCACTCCAGAATTTATACCTTCCTTCCGCCTGGTGGCTTACTACACCCTGATTGGAGCTAATGGCCAAAGGGAGGTGGTGG 1680
R  E  P  G  Q  D  L  V  V  L  S  L  P  I  T  P  E  F  I  P  S  F  R  L  V  A  Y  Y  T  L  I  G  A  N  G  Q  R  E  V  V   548
CCGACTCAGTGTGGGTGGATGTGAAGGACTCCTGTGTAGGCACGCTGGTGGTGAAAGGTGACCCAAGAGATAACCGACAGCCCGCGCCTGGGCATCAAACGACACTAAGGATCGAGGGGA 1800
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ACCAGGGGGCCCGAGTGGGGCTAGTGGCTGTGGACAAGGGGGTGTTTGTGCTGAACAAGAAGAACAAACTCACACAGAGCAAGATCTGGGATGTAGTAGAGAAGGCAGACATTGGCTGCA 1920
N  Q  G  A  R  V  G  L  V  A  V  D  K  G  V  F  V  L  N  K  K  N  K  L  T  Q  S  K  I  W  D  V  V  E  K  A  D  I  G  C   628
CCCCAGGCAGTGGGAAGAACTATGCGGGTGTCTTCATGGATGCTGGCCTGACCTTCAAGACAAACCAAGGCCTGCAGACTGATCAGAGAGAAGATCCTGAGTGCGCCAAGCCAGCTGCCC 2040
T  P  G  S  G  K  N  Y  A  G  V  F  M  D  A  G  L  T  F  K  T  N  Q  G  L  Q  T  D  Q  R  E  D  P  E  C  A  K  P  A  A   668
GCCGCCGTCGCTCAGTGCAGTTGATGGAAAGGAGGATGGACAAAGCTGGTCAGTACACCGACAAGGGTCTGCGGAAGTGTTGTGAGGATGGCATGCGTGATATCCCTATGCCGTACAGCT 2160
R  R  R  R  S  V  Q  L  H  E  R  D  M  D  K  A  G  Q  Y  T  D  K  G  L  R  K  C  C  E  D  G  M  R  D  I  P  M  P  Y  S   708
GCCAGCGCCGGGCTCGCCTCATCACCCAGGGCGAGAGCTGCCTGAAGGCCTTCATGGACTGCTGCAACTATATCACCAAGCTTCGTGAGCAGCACAGAAGAGACCATGTGCTGGGCCTGG 2280
C  Q  R  R  A  R  L  I  T  Q  G  E  S  C  L  K  A  F  M  D  C  C  N  Y  I  T  K  L  R  E  Q  H  R  R  D  H  V  L  G  L   748
CCAGGAGTGATGTGGATGAAGACATAATCCCAGAAGAAGATATTATCTCTAGAAGCCACTTCCCAGAGAGCTGGTTGTGGACCATAGAAGAGTTGAAAGAACCAGAGAAAAATGGAATCT 2400
A  R  S  D  V  D  E  D  I  I  P  E  E  D  I  I  S  R  S  H  F  P  E  S  W  L  W  T  I  E  E  L  K  E  P  E  K  N  Q  I   788
CTACGAAGGTCATGAACATCTTTCTCAAAGATTCCATCACCACCTGGGAGATTCTGGCAGTGAGCTTGTCCGACAAGAAAGGGATTTGTGTGGCAGACCCCTATGAGATCACAGTGATGC 2520
S  T  K  V  M  N  I  F  L  K  D  S  I  T  T  W  E  I  L  A  V  S  L  S  D  K  K  G  I  C  V  A  D  P  Y  E  I  T  V  N   828
AGGACTTCTTCATTGACCTGCGACTGCCCTACTCTGTGGTGCGCAATGAACAGGTGGAGATCAGAGCTGTGCTCTTCAATTACCGTGAACAGGAGAAACTTAAGGTAAGGGTGGAACTGT 2640
Q  D  F  F  I  D  L  R  L  P  Y  S  V  V  R  N  E  Q  V  E  I  R  A  V  L  F  N  Y  R  E  Q  E  K  L  K  V  R  V  E  L   868
TGCATAACCCAGCCTTCTGCAGCATGGCCACTGCCAAGAAGCGGTACTACCAGACCATCGAAATCCCTCCCAAGTCCTCTGTGGCTGTGCCTTATGTCATTGTCCCCTTGAAGATCGGCC 2760
L  H  N  P  A  F  C  S  H  A  T  A  K  K  R  Y  Y  Q  T  I  E  I  P  P  K  S  S  V  A  V  P  Y  V  I  V  P  L  K  I  G   908
TCCAGGAGGTGGAGGTCAAGGCCGCCGTCTTCAACCACTTCATCAGTGATGGTCAAGAAGATACTGAAGGTCGTGCCAGAAGGAATGAGAGTCAACAAAACTGTGGCTGTCCGTACAC 2880
L  Q  E  V  E  V  K  A  A  V  F  N  H  F  I  S  D  G  V  K  K  I  L  K  V  V  P  E  G  N  R  V  N  K  T  V  A  V  R  T   948
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L  D  P  E  H  L  N  Q  G  G  V  Q  R  E  D  V  N  A  A  D  L  S  D  Q  V  P  D  T  D  S  E  T  R  I  L  L  Q  G  T  P   988
TGGCTCAGATGGCCGAGGACGCTGTGGACGGGGAGCGGCTGAAACACCTGATCGTGACCCCCTCTGGCTGTGGGGAGCAGAACATGATTGGCATGACACCCACGGTCATTGCAGTACACT 3120
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Y  L  D  Q  T  E  Q  W  E  K  F  G  L  E  E  K  R  Q  E  A  L  E  L  I  K  K  G  Y  T  Q  Q  L  A  F  K  Q  P  I  S  A  Y   1068
CTGCCTTCAACAACCGGCCTCCCAGCACCTGGCTGACAGCTATGTGGTCAAGGTCTTTCTCTCTGGCTGCCAACCTCATCGCCATCGACTCTCAGGTCCTGTGTGGGGCTGTCAAATGGC 3360
A  A  F  N  N  R  P  P  S  T  W  L  T  A  M  W  S  R  S  F  S  L  A  A  N  L  I  A  I  D  S  Q  V  L  C  G  A  V  K  W   1108
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L  I  L  E  K  Q  K  P  D  G  V  F  Q  E  D  G  P  V  I  H  Q  E  M  I  G  G  F  R  N  T  K  E  A  D  V  S  L  T  A  F   1148
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G  S  T  Q  A  T  F  M  V  F  Q  A  L  A  Q  Y  R  A  D  V  P  D  H  K  D  L  N  M  D  V  S  L  H  L  P  S  R  S  S  P   1308
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T  V  F  R  L  L  W  E  S  G  S  L  L  R  S  E  E  T  K  Q  N  E  G  F  S  L  T  A  K  G  K  G  Q  G  T  L  S  V  V  T   1348
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GATACATTTCCAAGTATGAGATGGACAAAGCCTTCTCCAACAAGAACACCCTCATCATCTACCTAGAAAAGATCTCACACTCCGAAGAAGACTGCCTGTCCTTCAAAGTCCACCAGTTCT 4440
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F  N  V  G  L  I  Q  P  G  S  V  K  V  Y  S  Y  Y  N  L  E  E  S  C  T  R  F  Y  H  P  E  K  D  D  G  M  L  S  K  L  C   1508
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CTCCAATAAAGCTTCAGTTGTATTTT                                                                                                  5066
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