Sequence of the cDNA for the human fibroblast type interleukin-1 receptor

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A murine IL-1 receptor cDNA was obtained based on published information (1) and used to screen a human genomic library under reduced stringency conditions. A partial human genomic IL-1 receptor clone was isolated for screening a cDNA library made from human hepatoma (HepG2) mRNA, yielding a cDNA encoding a functional human IL-1 binding protein. Its expression in COS-cells leads to high affinity binding of labelled IL-1 (Kd=50-100pM). This binding protein represents the fibroblast-type IL-1 receptor (2). The predicted protein is 569 amino acids long. Alignment using Gap (3) predicts 69% amino acid identity with the mouse IL-1 receptor protein.

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GCCGGAGCCGACTCGGAGCG CGCGGCGCGGCCGGGAGGAG CCGAGCGCGCCGGGCGCGGC GTGGGGGCGCCGGCTGCCCC GCGCGCCCAGGGAGCG    96
GCAGGAATGTGACAATCGCG CGCCCGCACCGTAGCACTCC TCGCTCGGCTCCTAGGGCTC TCGCCCTCTGAGCTGAGCCG GGTTCCGCCCGGGCTG   192
GGATCCCATCACCCTCCACG GCCGTCCGTCCAGGTAGACG CACCCTCTGAAGATGGTGAC TCCCTCCTGAGAAGCTGGAC CCCTTGGTAAAAGACA   288
AGGCCTTCTCCAAGAAGAAT ATG AAA GTG TTA CTC AGA CTT ATT TGT TTC ATA GCT CTA CTG ATT TCT TCT CTG GAG GCT   368
 GAT AAA TGC AAG GAA CGT GAA GAA AAA ATA ATT TTA GTG TCA TCT GCA AAT GAA ATT GAT GTT CGT CCC TGT CCT   443
 CTT AAC CCA AAT GAA CAC AAA GGC ACT ATA ACT TGG TAT AAA GAT GAC AGC AAG ACA CCT GTA TCT ACA GAA CAA   518
 GCC TCC AGG ATT CAT CAA CAC AAA GAG AAA CTT TGG TTT GTT CCT GCT AAG GTG GAG GAT TCA GGA CAT TAC TAT   593
 TGC GTG GTA AGA AAT TCA TCT TAC TGC CTC AGA ATT AAA ATA AGT GCA AAA TTT GTG GAG AAT GAG CCT AAC TTA   668
 TGT TAT AAT GCA CAA GCC ATA TTT AAG CAG AAA CTA CCC GTT GCA GGA GAC GGA GGA CTT GTG TGC CCT TAT ATG   743
 GAG TTT TTT AAA AAT GAA AAT AAT GAG TTA CCT AAA TTA CAG TGG TAT AAG GAT TGC AAA CCT CTA CTT CTT GAC   818
 AAT ATA CAC TTT AGT GGA GTC AAA GAT AGG CTC ATC GTG ATG AAT GTG GCT GAA AAG CAT AGA GGG AAC TAT ACT   893
 TGT CAT GCA TCC TAC ACA TAC TTG GGC AAG CAA TAT CCT ATT ACC CGG GTA ATA GAA TTT ATT ACT CTA GAG GAA   968
 AAC AAA CCC ACA AGG CCT GTG ATT GTG AGC CCA GCT AAT GAG ACA ATG GAA GTA GAC TTG GGA TCC CAG ATA CAA  1043
 TTG ATC TGT AAT GTC ACC GCC CAG TTG AGT GAC ATT GCT TAC TGG AAG TGG AAT GGG TCA GTA ATT GAT GAA GAT  1118
 GAC CCA GTG CTA GGG GAA GAC TAT TAC AGT GTG GAA AAT CCT GCA AAC AAA AGA AGG AGT ACC CTC ATC ACA GTG  1193
 CTT AAT ATA TCG GAA ATT GAA AGT AGA TTT TAT AAA CAT CCA TTT ACC TGT TTT GCC AAG AAT ACA CAT GGT ATA  1268
 GAT GCA GCA TAT ATC CAG TTA ATA TAT CCA GTC ACT AAT TTC CAG AAG CAC ATG ATT GGT ATA TGT GTC ACG TTG  1343
 ACA GTC ATA ATT GTG TGT TCT GTT TTC ATC TAT AAA ATC TTC AAG ATT GAC ATT GTG CTT TGG TAC AGG GAT TCC  1418
 TGC TAT GAT TTT CTC CCA ATA AAA GCT TCA GAT GGA AAG ACC TAT GAC GCA TAT ATA CTG TAT CCA AAG ACT GTT  1493
 GGG GAA GGG TCT ACC TCT GAC TGT GAT ATT TTT GTG TTT AAA GTC TTG CCT GAG GTC TTG GAA AAA CAG TGT GGA  1568
 TAT AAG CTG TTC ATT TAT GGA AGG GAT GAC TAC GTT GGG GAA GAC ATT GTT GAG GTC ATT AAT GAA AAC GTA AAG  1643
 AAA AGC AGA AGA CTG ATT ATC ATT TTA GTC AGA GAA ACA TCA GGC TTC AGC TGG CTG GGT GGT TCA TCT GAA GAG  1718
 CAA ATA GCC ATG TAT AAT GCT CTT GTT CAG GAT GGA ATT AAA GTT GTC CTG CTT GAG CTG GAG AAA ATC CAA GAC  1793
 TAT GAG AAA ATG CCA GAA TCG ATT AAA TTC ATT AAG CAG AAA CAT GGG GCT ATC CGC TGG TCA GGG GAC TTT ACA  1868
 CAG GGA CCA CAG TCT GCA AAG ACA AGG TTC TGG AAG AAT GTC AGG TAC CAC ATG CCA GTC CAG CGA CGG TCA CCT  1943
 TCA TCT AAA CAC CAG TTA CTG TCA CCA GCC ACT AAG GAG AAA CTG CAA AGA GAG GCT CAC GTG CCT CTC GGG TAG  2018
CATGGAGAAGTTGCCAAGAG TTCTTTAGGTGCCTCCTGTC TTATGGCGTTGCAGGCCAGG TTATGCCTCATGCTGACTTG CAGAGTTCATGGAATG  2114
TAACTATATCATCCTTTATC CCTGAGGTCACCAGGAATCA GG                                                          2156
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References:

1) Sims et al., (1988). Science 241, 585-589; 2) Chizzonite et al., (1989). Proc. Natl. Acad. Sci. (USA), 86, 8029-8033; 3) Devereux et al., (1984). Nucl. Acids Res. 12 (1), 387-395.

