Nucleotide sequence of three cDNAs for the human high affinity Fc receptor (FcRI)

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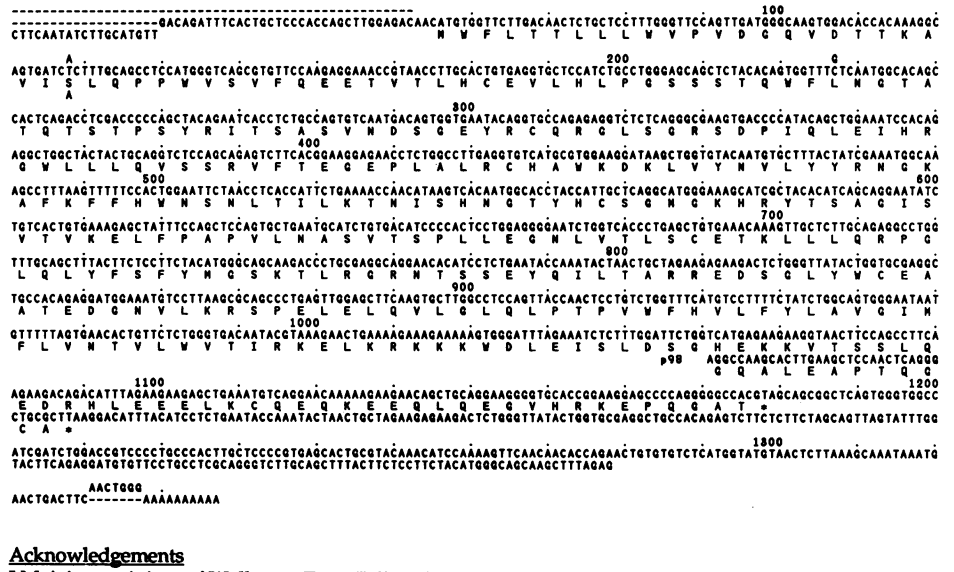
Macrophages express a high affinity receptor (FcRI) for the constant region of immunoglobulin G, which mediates antibody dependent cellular cytotoxicity and immune complex clearance (1). Three independent cDNA clones (designated p135, p90 and p98/X2) encoding human FcRI were isolated by ligand mediated selection of a cDNA library expressed in COS cells (2). Expression of the three cDNAs in COS cells gave rise to IgG binding of the appropriate affinity and subtype specificity. DNA sequence analysis revealed that the cDNAs encode similar type I integral membrane proteins with 3 extracellular immunoglobulin domains. The intracellular domain of p98/X2 diverges from that of the other two cDNAs. A composite sequence of the three cDNAs is shown, with the nucleotide differences of the p98/X2 or p90 clones shown respectively below or above the p135 sequence. Dashes denote gaps and no residues are shown above or below where the sequences are identical. The p90 cDNA has the shortest 5' untranslated region, 7 additional residues between the polyadenylation motif and the poly A tract, and 2 polymorphisms in the coding region. The p98/X2 cDNA has the longest 5' untranslated region, 1 polymorphism in the coding sequence, and diverges from the other two cDNAs at residue 1051, becoming a complex pattern of repeats of upstream sequences (2). The p98/X2 clone lacks a polyadenylation site.



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References

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