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Molecular cloning and functional characterization of a mouse *ccl6* analog gene in the rat

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ABSTRACT. Suppression subtractive hybridization was used to analyze differential expression of genes in rat peritoneal macrophages after granulocyte macrophage colony-stimulating factor treatment. We identified and cloned the mouse C10 analog gene in the rat, and named it as *ccl6*. The full-length cDNA of rat *ccl6* was 467 bp, which contains a single-open reading frame and encodes 116 amino acid residues. Compared with other C-C chemokines, the rat *ccl6* gene had an unusual four-exon genome structure instead of the typical three exons, it had the highest homology with murine *ccl6*. The rat *ccl6* gene was localized on chromosome 10, where most of the C-C chemokine superfamily members are located. The recombinant rat C-C chemokine ligand 6 (CCL6) protein was expressed by the pGEX4T-1 plasmid in *Escherichia coli* BL21. The purified recombinant protein had bioactivity similar to that of mouse CCL6, which is a chemoattractant for macrophages and

lymphocytes, but not for neutrophils.

Key words: *ccl6*; Genome structure; Chemoattractant; Macrophages; Lymphocytes

