

CD14 (cluster of differentiation 14), also known as CD14, is a human gene.

The protein encoded by this gene is a component of the innate immune system. CD14 exists in two forms, one anchored to the membrane by a glycosylphosphatidylinositol tail (mCD14), the other a soluble form (sCD14). Soluble CD14 either appears after shedding of mCD14 (48 kDa) or is directly secreted from intracellular vesicles (56 kDa).

The x-ray crystal structure of human CD14 (4GLP.pdb) reveals a monomeric, bent solenoid structure containing a hydrophobic amino-terminal pocket.

CD14 was the first described pattern recognition receptor.

CD14 acts as a co-receptor (along with the Toll-like receptor TLR 4 and MD-2) for the detection of bacterial lipopolysaccharide (LPS).[7][8] CD14 can bind LPS only in the presence of lipopolysaccharide-binding protein (LBP). Although LPS is considered its main ligand, CD14 also recognizes other pathogen-associated molecular patterns such as lipoteichoic acid.

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