Abstract

Fc receptor-like (FcRL) molecules are novel immunological receptors with intriguing proposed roles in the immune system. Phylogenetic studies revealed that *FcRL* genes are conserved in jawed vertebrates (*Gnathostomata*), and likely formed during adaptive system genesis. FcRLs have multiple extracellular immunoglobulin domains, and some representatives have newly documented specific ligands. Several FcRLs contain both ITIM and ITAM cytoplasmatic sequences, which provide them with dual signalling properties. These allow them to regulate intracellular signalling pathways. FcRLs are known to engage in B cell regulation. They are largely expressed on B cells, with some representatives preferentially expressed on cytotoxic T cells and NK cells. Their expression patterns are specific to distinct B cell subpopulations and also show different levels of expression during B cell differentiation, pointing to their possible involvement in this process. FcRL molecules have also been detected on the mammalian eggs, and they may potentially play role in gamete fusion. This thesis aims to introduce FcRL molecules in various aspects, including their relation to classical Fc receptors, their structural properties, genomic organisation, phylogenetic conservation and their roles in organism. Thesis also focuses on interspecies comparison of human and mouse representatives in all aforementioned aspects.