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Title:	Understanding the Similarities and Differences in Various Interleukins by Structure and Sequence Mapping
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Abstract:	Cytokines are small proteins with low molecular weights having a complex regulatory influence on inflammation and immune responses. It has been reported in previous experimental studies that development of immune and inflammatory responses involve hemaetopoetic cells, lymphoid cell and various pro-inflammatory and anti-inflammatory cells, and cytokines mediate the complex interactions of these cells. Interleukins are a type of cytokine that play essential roles in the activation and differentiation of immune cells, as well as proliferation, maturation, migration, and adhesion. Many Interleukins are observed to have similar signalling pathways but exert different functions or having different origin and signalling but are observed to show common functions. Several Interleukins are observed to show receptor pleiotropy i.e. same receptor complex is shared among more than one Interleukin. Here we have analysed the structural aspects and sequence homology possessed by various Interleukins, so as to get some idea about the cause of the similarity or difference in their respective functions and the Pleiotropic behaviour of the Interleukins. The reported experimental structures of interleukins were downloaded from PBD website and their pairwise sequence and structural alignments were carried out.
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