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An essay on

# **Interleukins**

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## **1. Introduction:**

Cytokines are peptide released from inflammatory tissue, connective tissue and immune system cells. They act by autocrine and paracrine mechanism.

Cytokines are secreted from lymphocytes are termed lymphokines. A large family of cytokines are produced by various cells of the body. Cytokines are low molecular weight soluble proteins (polypeptides) produced in response to microbes and other antigens. They act via cell surface receptors to mediate and regulate the amplitude and duration of the immune-inflammatory responses, through activation of macrophages, controlling growth and differentiation of T and B cells.

Interleukins are a group of cytokines (secreted proteins/signaling molecules) that were first seen to be expressed by white blood cells (leukocytes).<sup>[1]</sup> The term interleukin derives from (inter-) "as a means of communication", and (-leukin) "deriving from the fact that many of these proteins are produced by leukocytes and act on leukocytes". The name is something of a relic, though (the term was coined by Dr. Vern Paetkau, University of Victoria); it has since been found that interleukins are produced by a wide variety of body cells.

The function of the immune system depends in a large part on interleukins, and rare deficiencies of a number of them have been described, all featuring autoimmune diseases or immune deficiency.

The majority of interleukins are synthesized by helper CD4 T lymphocytes, as well as through monocytes, macrophages, and endothelial cells. They promote the development and differentiation of T, B, and hematopoietic cells.