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Meeting abstract

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Chemokine activity induced by interleukin-6

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Macrophages contribute to the innate immune response by eliminating bacteria, viral particles and apoptotic bodies. They develop from circulating monocytes. In case of an infection monocytes attach to the endothelial cells of the blood vessels, migrate along the endothelial cells, leave the circulatory system to enter the inflammatory tissue and differentiate into macrophages. Cell migration is frequently induced by chemokines which act through G-protein coupled receptors. Only a few cytokines, signaling through single transmembrane domain receptors have been shown to induce cell migration. Often, this potential depends on the induction of classical chemokines and is not a direct cellular effect. Here we discovered interleukin-6 as a potent stimulant for monocytic cell migration. Furthermore, we present data on interleukin-6-induced integrin activation, cell attachment, actin polymerization, fibronectin-dependent migration, and trans-migration through a layer of endothelial cells. Our results show that IL-6 fulfils all biological properties to mediate cell migration of monocytic cells, which may contribute to the pro-inflammatory potential of IL-6.