



The Interplay between Cellular and Humoral Innate Immunity

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ABSTRACT

Innate immunity consists of a cellular and a humoral arm. The role of negative regulators, including TIR8 (a member of the IL-1 receptor family) and D6 (a decoy and scavenger chemokine receptor) will be discussed. We have used the long pentraxin PTX3 as a paradigm for the humoral arm of innate immunity and its interplay with cells. PTX3 is a multifunctional soluble pattern recognition receptor characterized by a C-terminal domain highly homologous to C-reactive protein and serum amyloid P component, associated to a N-terminal domain unrelated to other known proteins. PTX3 is produced upon stimulation with proinflammatory cytokines and Toll-like receptor engagement by different cell types, including endothelial cells, monocytes/macrophages, dendritic cells, fibroblasts and epithelial cells.

The molecule binds with high affinity complement component, microbial moieties, growth factors and apoptotic cells. PTX3 plays non-redundant functions including innate immunity against selected microorganisms to regulation of inflammation. In addition PTX3 has a regulatory function. PTX3 serves as a paradigm for the interplay between the cellular and the humoral arm of innate immunity.

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