

Molecular events of bacterial-induced maturation of dendritic cells. J

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In order to protect the body from infectious microorganisms, mammals have developed powerful lines of defense, consisting in innate and adaptive immune responses. The innate response is phylogenetically more ancient and, for a long time, it has been considered to be broadly directed to microorganisms. However, the discovery of a new class of receptors, involved in recognition of patterns characteristic of groups of microorganisms (the toll-like receptor family) has re-evaluated the role of the innate immune system as a discriminating system. Indeed, there is increasing evidence that the induction of different types of effector adaptive responses are directed by the innate immune system after recognition of particular groups of pathogens. The central role of Dendritic cells (DC) in the induction of adaptive immune responses towards infectious agents has been extensively described, but, recently, a new role of DC as a link between the non-antigen- and the antigen-specific responses has been proposed. DC have, indeed, the capacity to recruit and activate cells of the innate immune system upon inflammation. Thus, understanding the interaction of bacteria with DC, and the early molecular events resulting from this interaction may shed some light on the mechanisms of initiation of the immune response to infectious agents and on aspects of invasiveness, pathogenicity, and the persistence of certain bacteria.