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Dendritic cell function

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Dendritic cells are antigen-presenting cells that play a critical role in linking the innate and the adaptive immune systems. In the September issue of *Nature Immunology*, Francesca Granucci and colleagues at the University of Milano-Bicocca, Italy, report the results of an oligonucleotide microarray screen to identify genes regulated in dendritic cells following activation by Gram-negative bacteria (*Nature Immunology* 2001, **2**:882-888). They analysed the transcriptome of the dendritic cell-line D1 at several time points after activation with bacteria. Their analysis identified changes in a large number of genes, including genes implicated in inflammation, apoptosis, signal transduction and transcription. Also, Granucci *et al.* observed an induction of interleukin 2 (IL-2) mRNA at early time points (4-6 hours) and confirmed the importance of dendritic cell-derived IL-2 using bone marrow dendritic-cells from *IL-2*^{-/-} knockout mice. These results provide a molecular clue to explain the priming of naive T cells by dendritic cells during the immune response.

References

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