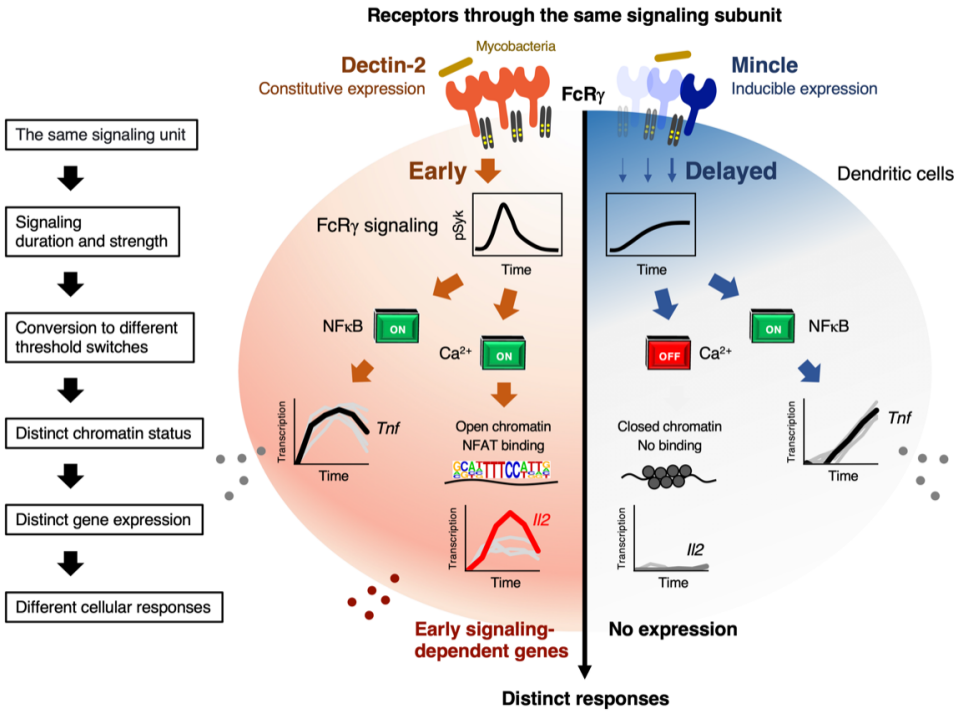
Timing matters for dendritic cell signaling

Dendritic cells detect pathogens through pattern recognition receptors, which generate distinct changes in gene expression and cytokine production, even when the receptors signal through the common subunit FcRγ. Watanabe *et al.* uncovered how two receptors for different mycobacterial components, Dectin-2 and Mincle, can generate divergent dendritic cell responses through FcRγ (see also the Focus by Blamberg and Lang). In contrast to the constitutively expressed Dectin-2, which generated strong signaling through FcRγ shortly after stimulation, Mincle expression was induced after stimulation and signaling was delayed. The Dectin-2 gene expression and cytokine profile was mimicked by constitutively expressed Mincle or a chimeric FcRγ receptor stimulated in a robust, sustained fashion. Thus, the kinetics of FcRγ signaling determines the changes in gene expression and cytokine output that occur in dendritic cells in response to receptor stimulation. pathway.



Article

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