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Microfold (M) cells: important immunosurveillance posts in the intestinal epithelium.

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Source

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Abstract

The transcytosis of antigens across the gut epithelium by microfold cells (M cells) is important for the induction of efficient immune responses to some mucosal antigens in Peyer's patches. Recently, substantial progress has been made in our understanding of the factors that influence the development and function of M cells. This review highlights these important advances, with particular emphasis on: the host genes which control the functional maturation of M cells; how this knowledge has led to the rapid advance in our understanding of M-cell biology in the steady state and during aging; molecules expressed on M cells which appear to be used as "immunosurveillance" receptors to sample pathogenic microorganisms in the gut; how certain pathogens appear to exploit M cells to infect the host; and finally how this knowledge has been used to specifically target antigens to M cells to attempt to improve the efficacy of mucosal vaccines.