

Mycobacterium tuberculosis 38-kDa lipoprotein is apoptogenic for human monocyte-derived macrophages.

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Mycobacterium tuberculosis is the main aetiologic agent of tuberculosis, a disease of great concern in less-developed regions. Apoptosis is a conspicuous event in macrophages infected in vitro with mycobacteria, a phenomenon also observed in vivo in granulomas of patients with tuberculosis. To determine its significance, it is important to define the mycobacterial moieties involved and how they cause apoptosis. Here we show that the 38-kDa lipoprotein induces macrophage caspase-dependent apoptosis involving TNF- α and FasL and, interestingly, with the upregulation of cell-death receptors TNFR1, TNFR2 and Fas. A role for the Toll-like receptor 2 was also demonstrated. In conclusion, the ability to induce apoptosis of host cells is another property of the 38-kDa lipoprotein, a molecule that has focused attention for being an immunodominant antigen that participates in phosphate transport.

Scand J Immunol. 2009 Jan;69(1):20-8.