

CD8<sup>+</sup> T cell effector function during pulmonary tuberculosis.

T cells are essential for the control of both primary and latent *Mycobacterium tuberculosis* (Mtb) infection. Their production of cytokines, particularly interferon-gamma and tumor necrosis factor, is critical for the activation of macrophages and limits intracellular Mtb replication. Another effector function of CD8<sup>+</sup> T cells is their cytolytic capacity. Mtb-specific CD8<sup>+</sup> T cells are cytotoxic in vivo during Mtb infection and their CTL activity is mediated by a combination of molecular pathways including perforin-dependent cytotoxic granule exocytosis and CD95/95L-dependent apoptosis. Finally, the protective capacity of CD8<sup>+</sup> T cells requires perforin, indicating that T cell functions other than cytokine production are critical in mediating protection against intracellular Mtb infection.