

Molecular and Functional Profiling of Memory CD8 T Cell Differentiation

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How and when memory T cells form during an immune response are long-standing questions. To better understand memory CD8 T cell development, a time course of gene expression and functional changes in antigen-specific T cells during viral infection was evaluated. The expression of many genes continued to change after viral clearance in accordance with changes in CD8 T cell functional properties. Even though memory cell precursors were present at the peak of the immune response these cells did not display hallmark functional traits of memory T cells. However, these cells gradually acquired the memory cell qualities of self-renewal and rapid recall to antigen suggesting the model that antigen-specific CD8 T cells progressively differentiate into memory cells following viral infection.