

Keywords and Phrases for Antigen-Presenting Cells (APCs).

activation of macrophage

activation of that naïve T8-lymphocyte

activation of that naïve T4-lymphocyte

capture and present epitopes of antigen to the ever-changing populations of naïve T8-lymphocytes and naïve T4-lymphocytes in the lymph nodes

capture and present epitopes of exogenous antigens to effector T-lymphocytes

circulate back and forth between the blood and the lymphoid system of the body

effector T4-lymphocyte producing cytokines that enable that B-lymphocyte to proliferate and differentiate into antibody-secreting plasma cells

Exogenous antigens are phagocytosed and are degraded into protein antigens and peptide epitopes within the hagolysome. From here the antigens enter the cytoplasm and are processed by proteasomes and enter the ER or directly enter vesicles containing MHC-I molecules.

MHC-I/peptide complexes can then be recognized by complementary shaped T-cell receptors (TCRs) and CD8 molecules on naïve T8-lymphocytes

MHC-II/peptide complexes can then be recognized by complementary shaped T-cell receptors (TCRs) and CD4 molecules on an effector T4-lymphocytes

MHC-II/peptide complexes can then be recognized by complementary shaped T-cell receptors (TCRs) and CD4 molecules on naïve T4-lymphocytes

T4-effector cells

T8-effector cells

The cell's own cytoplasm is taken into specialized vesicles called autophagosomes. The autophagosomes fuse with lysosomes containing proteases that degrade the proteins in the autophagosome into peptides.