e. Externally Acquired Antigens Versus Internally Acquired Antigens

DCs can present internally acquired antigens, that is, antigens newly biosynthesized in the DC, and these are presented by MHC class I (144,145). DCs can present externally acquired antigens, and these are presented by MHC class II.

f. Polypeptide Antigens can Contain Both MHC Class I and MHC Class II Epitopes

During processing of a polypeptide antigen by a DC, the polypeptide is cleaved into dozens of distinct oligopeptides. For any given polypeptide, some of these oligopeptides are presented by way of MHC class I, while others are presented by way of MHC class II. Where a polypeptide contains only regions that are eventually presented by way of MHC class I, the result is formation of an immune synapse with $CD8^+$ T cells. Where a polypeptide contains only regions that are eventually presented by way of MHC class II, the result is formation of an immune synapse with $CD4^+$ T cells. Using MHC class I, DCs present antigens to $CD8^+$ T cells (146). Using MHC class II, DCs present antigens to $CD4^+$ T cells.

g. Two Different Mechanisms of CTL Response (Fas-Dependent and Perforin-Dependent)

$CD8^+$ T cells kill target cell either by a Fas-dependent mechanism or a perforin-dependent mechanism (147).

h. Naive Response and Memory Response

The response of T cells takes the form of either naive immune response or memory immune response (148,149). Naive immune response occurs where the T cell is, for the first time, presented with a given antigen. Memory immune response occurs where the same T cell is presented, on a second later occasion, with the same antigen.

i. Innate Immunity and Specific Immunity

Immune response takes two forms, namely, innate immunity and specific immunity.

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