

Unit 1: Lesson 3 – The Adaptive Immune System

GLOSSARY

Antibody

Y-shaped proteins produced by B cells that are specific to a particular pathogen and can neutralize it. Five different classes of antibodies occur which have distinct functions.

Antigen

Part of a pathogen that generates an immune system response because it is recognized by cells of the immune system.

Antigen presenting cells (APCs)

Cells that display antigens on their surface to activate adaptive immune responses to pathogens. The main types are dendritic cells, macrophages, and B cells.

B Cells

Cells formed in the bone marrow that produce (and secrete) antibodies. They also serve as antigen presenting cells and some are long-lived memory cells.

Cognate antigen

A molecule that is recognized by an immune cell in the manner of a lock and key.

Dendritic Cells

Technically considered an innate immune cell, these cells also play a central role in the adaptive immune response serving as powerful antigen presenting cells.

Neutralize

To render a pathogen inactive, so that it cannot cause infection. A typical example is when an antibody binds to a protein on the surface of a pathogen, so that it cannot bind to and infect a cell.

Proliferation

The process of rapid multiplication, such as occurs with B cells following presentation of an antigen by T cells enabling a rapid and specific response.

Protein

Molecules composed of amino acids. Each has a unique, genetically defined amino acid sequence that determines its shape and function.

Receptor

A signal molecule on the surface of a cell that facilitates interaction with another cell or a molecule, typically by binding in a specific manner, such as that of a lock and key.

T Cells

Lymphocytes that regulate immune responses or directly attack pathogens. Although these cells originate in the bone marrow, they migrate to the thymus to mature.