

## 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.