BBC BITESIZE

GCSE Biology – Immune System - Transcript

The immune system is your body's defence against disease. When harmful microorganisms, called pathogens, get inside the body, the immune system detects and destroys them, using specialised white blood cells.

There are two main types of white blood cells. Phagocytes and Lymphocytes. Phagocytes are the white blood cells which destroy harmful microorganisms.

They detect, then surround and engulf pathogens. Once the pathogens are inside the phagocyte, it releases enzymes that destroy them.

This process is called phagocytosis. Phagocytes are non-specific and will destroy any pathogens they encounter.

Lymphocytes are the white blood cells that recognise proteins on the surface of pathogens. These proteins are called antigens. Lymphocytes detect these antigens as foreign or that they do not naturally occur within an individual's body.

In response they produce antibodies. Each type of antibody is specific to the antigen of a particular pathogen. An antibody attaches to the antigens of several pathogens and clumps them together making them easier for the phagocytes to detect and destroy them.

Some pathogens, particularly, bacteria, release toxins that make us feel ill. Some lymphocytes also produce antitoxins. These bind to the toxins and neutralise them.

With phagocytes attacking, lymphocytes and their antibodies targeting, and antitoxins neutralising, the immune system is always on guard to defend us against disease.