

**Higher Human Biology**

**Unit 3: Neurobiology & Immunology**

**Key area 5: Non specific body defences**

**Key area 6: Specific cellular defences against pathogens**

By the end of this topic I will be able to:

**Key area 5 :Non-specific body defences**

1. Define the term immunity and name the 2 main types of

immunity; non-specific and specific.

2. State that a pathogen is a bacterium, virus or other organism

that can cause disease

2. Describe the physical (eg epithelial cells) and chemical (eg

mucus) barriers the body employs in its first line of defence

against pathogens and understand that these are non-specific

responses.

3. Describe the events of an inflammatory response as another

form of non-specific immunity.

4. Understand and describe the non-specific cellular responses

acting as a second line of defence to include the process of

phagocytosis carried out by phagocytes and the role of

cytokines

**Key area 6: specific cellular defences against pathogens**

5. State that specific immunity is the third line of defence and

involves lymphocytes (B & T)

6. Understand that any invading pathogen is recognised by

proteins on its surface called antigens

7. Describe the response carried out by B lymphocytes in

response to binding to a foreign antigen.

8. Describe the structure and role of antibodies

9. State that B lymphocytes can also respond to antigens on

substances that are harmless (e.g. pollen) causing an allergic

reaction

10. State that T lymphocytes have specific surface receptor

proteins that allow them to distinguish between the body’s

own cells (self) and infected cells with foreign antigens on

their surface (non-self).

11. Know that T lymphocytes destroy infected body cells by

apoptosis

12. State that a failure in the regulation of the immune system

leading to T lymphocytes carrying out an immune response

against self cells is known as auto-immunity and give examples

of conditions caused by this.

13. Compare and contrast the primary and secondary immune

Response and outline the role of memory cells.

14. Describe the action of HIV and the development of AIDS