CONCEPT: INNATE IMMUNE RESPONSE

● There are three components to an _____ immune response

1. Chemical and physical barriers

    - Examples include: the skin, acidic pH, mucus enzymes

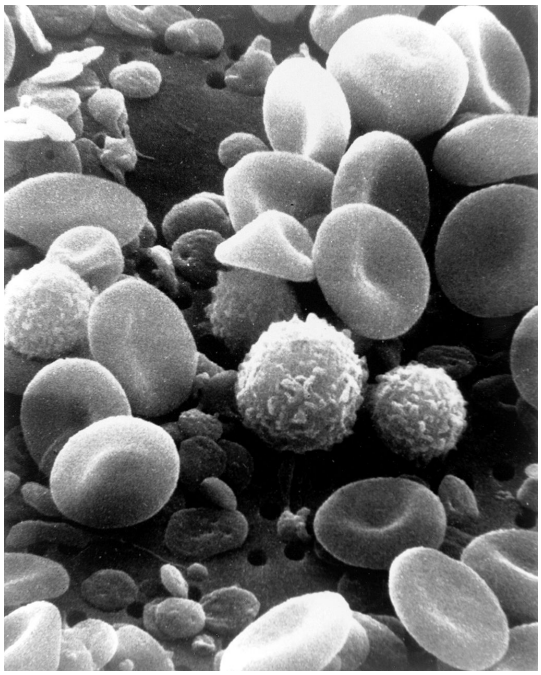
2. Cell-intrinsic responses

    - These responses are done by a single cell to stop a pathogen that has infected the cell

3. Phagocytic cells

    - Recognize pathogens around the body and activate in order to destroy the pathogen

EXAMPLE:



● After an infection many components of the innate immune system _____

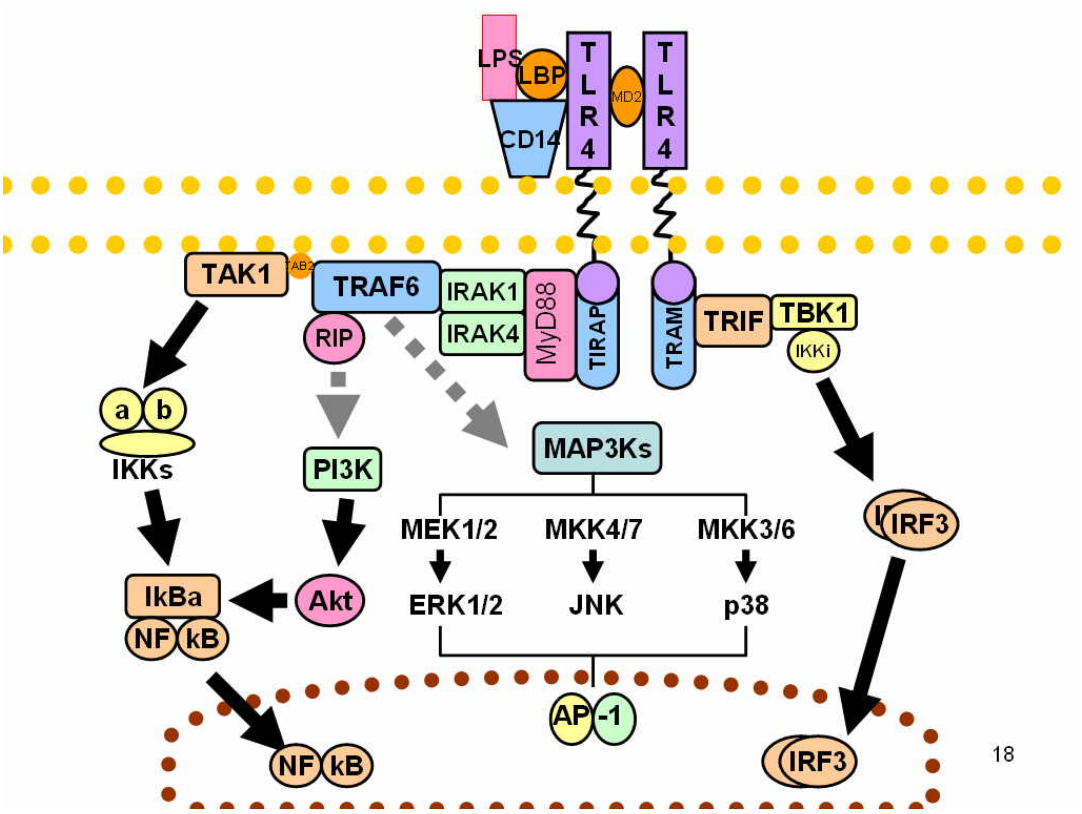
□ **Pathogen-associated molecular patterns (PAMPs)** are pathogenic sequences that the host cell can recognize

- **Pattern recognize receptors** on the surface of cells recognize and bind PAMPs on the pathogen.

    - An example is the **toll-like receptor** (TLR) which triggers the innate immune response

- Once bound it can stimulate the cell to kill it or to activate other cells, or the adaptive immune system

EXAMPLE:



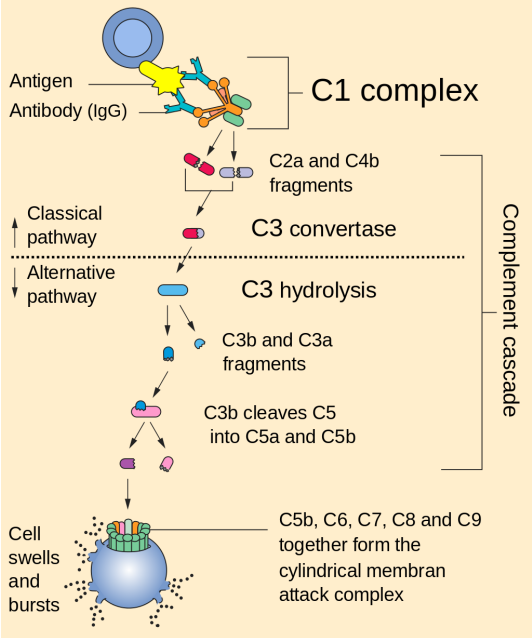
□ **Complement system** consists of a collection of 20 proteins that circulate in the blood

- After an infection they become activated, and can help get rid of the pathogen.

□ **Phagocytic cells** find, engulf, and destroy the _____

□ **Natural killer (NK) cells** cause an infected cell to undergo apoptosis, killing itself and the pathogen

EXAMPLE:



□ Inflammation results in pain, heat, swelling at the infectious site

□ *Dendritic cells* have TLRs and can bind to pathogen and activate the adaptive immune system

PRACTICE:

1. Which of the following is not an innate immune response?
    a. The skin barrier
    b. Phagocytic cells
    c. Complement system
    d. Antibody production

2. What is the name of the pathogenic sequence that a host cell recognizes as foreign?
    a. Pattern recognition receptors
    b. PAMPs
    c. Toll-like receptors
    d. Complement sequences