



# Understanding Innate Immunity: Our First Line of Defence against Pathogens

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## Abstract

invading pathogens. This evolutionarily conserved system is present from birth and provides rapid and immediate chemical barriers, pattern recognition receptors (PRRs), phagocytes, natural killer (NK) cells, and the complement and cytokine signalling, are activated. Innate immunity also plays a crucial role in coordinating with adaptive immunity to mount targeted responses. Understanding the mechanisms and components of innate immunity is fundamental to advancing immunological research and developing novel therapeutic approaches to combat infectious diseases. against invading pathogens, it acts as a crucial shield, safeguarding our health from harmful microorganisms. Unlike

as initiate tissue repair. Signs of inflammation include redness, heat, swelling, and pain.

**F** : Fever is a systemic response that occurs in response to infection. Elevated body temperature helps to inhibit the growth of certain pathogens and enhances the effectiveness of immune responses.

**I** : Interferons are proteins released by infected cells to warn neighbouring cells about a viral infection, activating antiviral defences and preventing the virus from spreading [9].

**C** : Cytokines are signalling molecules released by various immune cells to orchestrate immune responses, such as recruiting more immune cells to the site of infection.

While innate immunity provides an immediate response to pathogens, adaptive immunity complements and strengthens this defence. Innate immunity