

Defection of the Immune Cells: A Tale of Autoimmune Diseases

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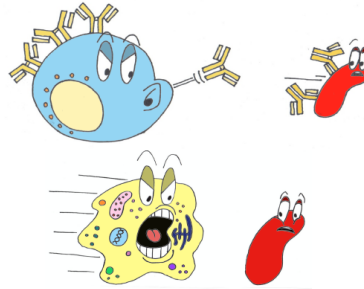
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1. The Immune System

The immune system's job is to protect the body from infectious microbes like bacteria, viruses and parasites. If a disease causing microbe enters the human body, the immune system senses it and jumps into action.

Upon sensing the danger, the immune system kills the microbe through the production of proteins and toxic molecules. Other immune cells can also eat the invading microbes.

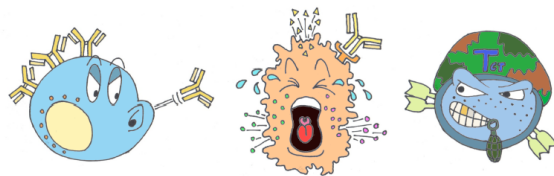
2. Immune cells killing disease causing microbe



3. Autoimmune Disease

Autoimmune disease happens when the very same immune system, gets confused and starts sensing our own cells as dangerous. This "defection" against self is known as autoimmunity. In autoimmune diseases, the immune system produces molecules and proteins against self-cells, which causes cell death and damage to the body.

4. Immune cells killing self-cell



5. Why does the immune system get confused?

Some people have genetic defects in their immune system which makes them more likely to get autoimmune diseases.

Environmental factors such as smoking and stress can also increase the chances of autoimmune diseases.

6. What causes autoimmunity?



7. Treatments for Autoimmune diseases

There are currently no cures for autoimmune diseases. The medicines available manage the disease by dampening the immune system. These treatments sometimes don't work or have bad side effects.

Research to help cure autoimmune diseases

We, at the University of Glasgow are trying to develop treatments which specifically target the confused immune cells which cause disease. We are trying to turn them off for good, leading to a permanent cure.