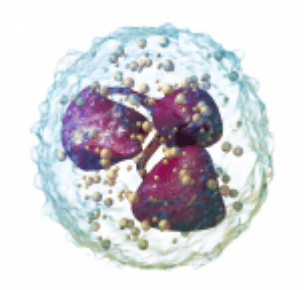
Improving treatments for autoimmune diseases



Autoimmune diseases may be easy to diagnose but almost all of them are difficult to treat (READ MORE). In a recent paper by Yazar, et al., the researchers used a unique immune cell fingerprint in order to accurately identify treatments for certain autoimmune disease.

They analysed the genomic profile of over one million cells from about one thousand people. The aim was to identify an immune cell fingerprint which would link genetic markers to autoimmune diseases including multiple sclerosis, rheumatoid arthritis, lupus, type 1 diabetes and inflammatory bowel disease. This was achieved using single-cell sequencing.

Their discovery would help pave the way for the development of new and personalised treatments of autoimmune diseases by linking specific genes and immune cell types to an individual's disease.

Interestingly, they noticed limitations to using bulk RNA analysis as this provided them with an average signal. Through the use of single-cell sequencing they were able to identify the vast variation in cell functions and cell types that allow the body to defend against attack.

Journal article: Yazar, S., et al, 2022. Single-cell eQTL mapping identifies cell type specific genetic control of autoimmune disease. *Science.*

Summary by Stefan Botha