



The Royal College of Pathologists

Pathology: the science behind the cure

Object 21: The DNA double helix



What is it?

DNA (deoxyribose nucleic acid) is the building block that forms the genetic blueprint for every plant and animal. Every person has a unique genetic make-up, determined by the order of base pairs in their DNA.

History

DNA was identified in the nineteenth century but it was the discovery of the structure of DNA that was a major breakthrough in modern pathology. Scientists James Watson and Francis Crick first described DNA's double helix structure, publishing their research in *Nature* in 1953. Their discovery was heavily influenced by the work of chemist Rosalind Franklin, who used x-ray crystallography to determine the chemical structure of DNA.

Pathology

Many diseases, including cancer, develop as a result of faults in our DNA. We may have inherited the fault from one of our parents or have developed it by mutation. Geneticists study DNA to diagnose diseases that we already have and to predict conditions that we may go on to develop.

Find out more

You can visit the [Cavendish Laboratory](#) where Watson and Crick did their ground-breaking work on DNA.

You can learn about the structure of DNA in a [series of animations](#) by John Kyrk.