Polymerase chain reaction

PCR is a widely used method for amplifying specific DNA sequences. It allows researchers to create millions of copies of a target DNA region, making it easier to study and analyze. Variations of PCR, such as quantitative PCR (qPCR) and reverse transcription PCR (RT-PCR), are used for quantifying gene expression and detecting RNA, respectively.

The polymerase chain reaction (PCR) is a technology in molecular biology used to amplify a single copy or a few copies of a piece of DNA across several orders of magnitude, generating thousands to millions of copies of a particular DNA sequence.

Developed in 1983 by Kary Mullis, PCR is now a common and often indispensable technique used in medical and biological research labs for a variety of applications.

These include DNA cloning for sequencing, DNA-based phylogeny, or functional analysis of genes; the diagnosis of hereditary diseases; the identification of genetic fingerprints (used in forensic sciences and DNA paternity testing); and the detection and diagnosis of infectious diseases. In 1993, Mullis was awarded the Nobel Prize in Chemistry along with Michael Smith for his work on PCR.