



## An Overview of DNA & Sanger Sequencing

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DNA is understood as polymer. It's associate chemical compound that encompasses a distinctive molecular structure. It's found altogether prokaryotic cells and eukaryotic cells. "DNA may be a cluster of molecules that's to blame for carrying and sending the hereditary materials or the genetic directions from folks to offsprings." The deoxyribonucleic acid gift within the mitochondria of the cell is termed as mitochondrial deoxyribonucleic acid. It's transmissible from the mother to the kid. In humans, there square measure about 16000 base pairs of mitochondrial deoxyribonucleic acid. Similarly, plastids have their own deoxyribonucleic acid, and that they play a vital role in chemical action.

The computer science element of bioinformatics contributes with information and methodology for the event of appropriate and economical algorithms, software, and techniques to research the generally massively massive digital representations of biological knowledge sets. Arithmetic and statistics square measure essential parts used for creating inferences and predictions supported biological knowledge, manufacturing models describing the underlying biological processes and their variability in order that hypotheses are often developed. These hypotheses will, in turn, be investigated with experiments, thereby increasing our understanding of those biological systems. Additionally, bioinformatics is additionally used as a term in regard to the procedure tools and algorithms developed to extract helpful data from biological knowledge.

DNA sequence alignment may be a requirement to just about all comparative genomic analyses, together with the identification of preserved sequence motifs, estimation of biological process divergence between sequences, and illation of historical relationships among genes and species.

### History

DNA was 1st recognized and known by land man of science, Johannes Friedrich Miescher in 1869 throughout his analysis on white blood cells.

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### DNA Typing

DNA typewriting may be a laboratory procedure that detects traditional variations in an exceedingly sample of deoxyribonucleic acid (deoxyribonucleic acid). Deoxyribonucleic acid typewriting is most frequently accustomed establish identity, parentage, kinship and acceptable matches for transplantation of organs and tissues.

### Sanger Deoxyribonucleic acid Sequencing

Sanger sequencing, additionally called the "chain termination method", may be a technique for determinant the ester sequence of deoxyribonucleic acid. The tactic was developed by 2 time Nobel Laureate Frederick Sanger and his colleagues in 1977, thus the name the Sanger Sequence.

DNA sequencing is that the method of determinant the sequence of ester bases (As, Ts, Cs, and Gs) in an exceedingly piece of deoxyribonucleic acid. Today, with the correct instrumentality and materials, sequencing a brief piece of deoxyribonucleic acid is comparatively simple.

In Sanger sequencing, the target deoxyribonucleic acid is derived again and again, creating fragments of various lengths. Fluorescent "chain terminator" nucleotides mark the ends of the fragments and permit the sequence to be determined.

PCR uses forward and reverse primers. Sanger sequencing uses one primer rather than two. The amplification method copies one strand however not the reverse strand. The copy is that the same direction because the primer and can't be used as a templet for later cycles.

### Steps concerned in Sanger Sequencing

- DNA Sequence for Chain Termination PCR
- Size Separation by Gel dielectrolysis
- Gel Analysis & Determination of deoxyribonucleic acid Sequence

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