

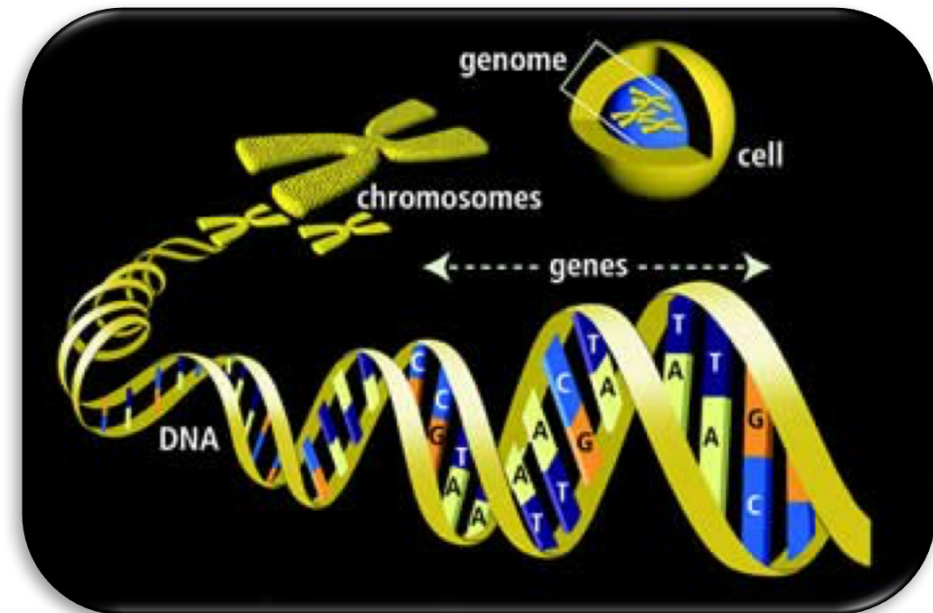


# **DNA Extraction From Blood**

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# Genome:

- The genome is the genetic material of an organism.
- The genomes of almost all organisms are DNA.
- The only exceptions being some viruses that have **RNA genomes**.
- DNA–protein complexes called **chromosomes**.



# DNA extraction:

- DNA isolation is an essential technique in molecular biology.
- It is the first step for studying DNA!!
- Practically DNA can be isolated from any part of human body.  
→ Choose the correct source !



# Method of DNA extraction:

- Many different methods and technologies are available for the isolation of genomic DNA.





# Practical Part

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## Aim:

- To isolate pure genomic DNA from blood sample.

## Principle:

- Physical and chemical processes of tissue homogenisation.
- Cell permeabilisation, cell lysis (using hypotonic buffers).
- Removal of nucleases, protein degradation, protein precipitation, solubilisation of nucleic acids.
- Various washing steps then recover the DNA.



# Results:

- Cloudy precipitation can be seen by the naked eye, and it represent the isolated DNA.
- The **concentration, purity, and integratiy** of the extracted nucleic acid may need to be determined.



# Homework:

- **Search for a method for DNA extraction and explain it briefly.**