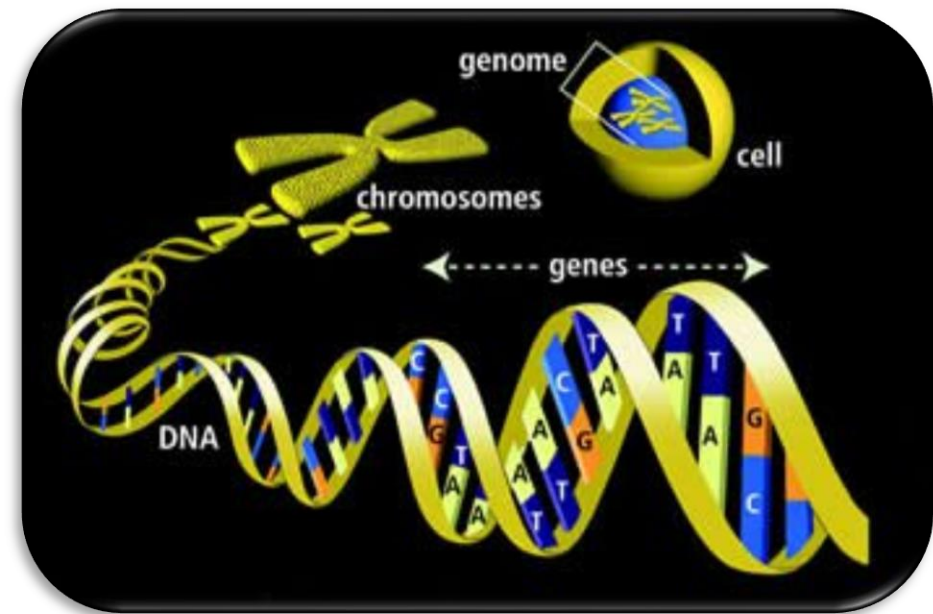




Genomic DNA Extraction From Blood

Genome:

- The genomes of almost all organisms are **DNA**.
- Exception?
- DNA–protein complexes called **chromosomes**.
- Genome **vs** gene.



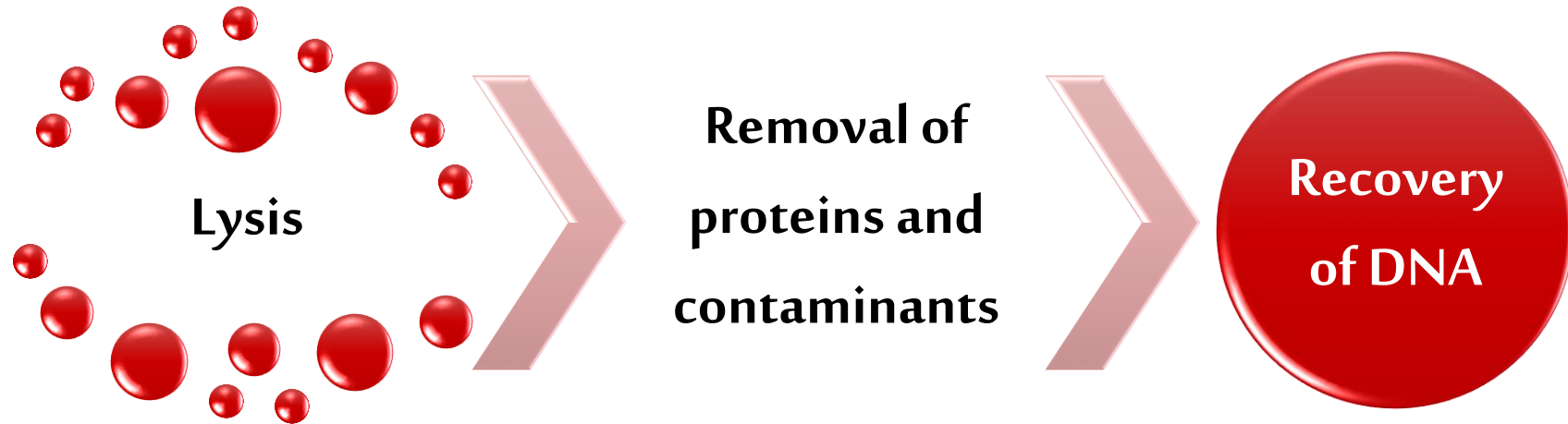
DNA extraction:

- 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 your correct source !
- Different methods to extract DNA.
→ Choose the right method !



Method of DNA extraction:

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





Practical Part



Aim:

- To isolate pure genomic DNA from rat blood sample.

Principle:

- **Physical** and **chemical** processes of **tissue** homogenisation (?).
- Cell permeabilization, cell lysis (using hypotonic buffers).
- Removal of nucleases, protein degradation, protein precipitation, solubilisation of nucleic acids.
- Various washing steps.



Results:

- Cloudy precipitation can be seen by the naked eye, and it represent the isolated DNA.
- The **yield and purity** of the extracted nucleic acid may need to be determined. (Lab #3).



Home Work:

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