

- ✓ Although the name nucleic acid suggests their location in the nuclei of cells, certain of them are, however, also present in the cytoplasm.
- ✓ The nucleic acids are the hereditary determinants of living organisms.
- ✓ They are the macromolecules present in most living cells either in the free state or bound to proteins as nucleoproteins.
- ✓ Like the proteins, the nucleic acids are biopolymers of high molecular weight with **mononucleotide** as their repeating units, just as amino acids are the repeating units of proteins.
- ✓ There are two kinds of nucleic acids, **deoxyribonucleic acid (DNA) and ribonucleic acid (RNA)**.
- ✓ Both types of nucleic acids are present in all plants and animals.
- ✓ DNA is found mainly in the chromatin of the cell nucleus whereas most of the RNA (90%) is present in the cell cytoplasm and a little (10%) in the nucleus.
- ✓ It may be added that extranuclear DNA also exists; it occurs, for example, in mitochondria and chloroplasts.

Components of nucleic acids

| Components | RNA | DNA |
|--------------------------|-----------------|-----------------|
| Acid | Phosphoric acid | Phosphoric acid |
| Pentose sugar | Ribose | 2-deoxyribose |
| Nitrogenous bases | | |
| Purines | Adenine | Adenine |
| | Guanine | Guanine |
| Pyrimidines | Cytosine | Cytosine |
| | Uracil | Thymine |