

# Genetic Material Encyclopedia Article

## Genetic Material

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# Genetic Material

Genetic material is the inheritable material of an organism. The genetic material of most life forms is comprised of DNA. DNA is present in the cells as chromosomes, which are found in the nucleus of eukaryotes. This is not the only location for genetic material. Some DNA is located in the organelles of various organisms. These organelles are chiefly known as mitochondria, or in plants as chloroplasts. Genes that are contained in organelles are said to show "extra nuclear inheritance." These types of genes show a slightly different pattern of inheritance compared to nuclear genes. Some organisms contain RNA as their genetic material. This type of inheritable material is restricted to only a small number of viruses. Organisms which have their genetic material dispersed throughout the cell are called prokaryotes. Some bacteria and all viruses are prokaryotes.

Genetic material must be able to replicate information about itself to pass on to future generations. In 1944, Oswald Avery showed that genetic material was carried in the nucleic acid of the cell. In 1953, James Watson and Francis Crick suggested the method by which DNA was able to replicate itself.