

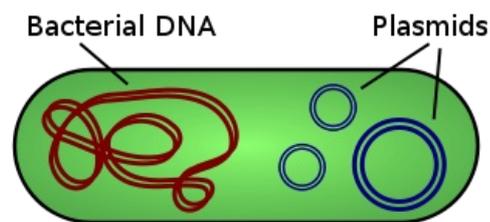
# Plasmid

A **plasmid** is a small, circularly coiled stretch of DNA found loose in the cytoplasm of bacteria. It exists in multiple copies (10-50) that carry one or more genes. Their replication occurs independently of the main chromosome.

Plasmids are variable and *carry hereditary information outside the nucleus*. They have the ability to move from cell to cell. It is a transfer to the cytoplasm of other bacteria, most often through conjugation (F+ factor, i.e., sex factor of E.coli). After opening the circular structure, they can incorporate into the main chromosome. During conjugation, the duplicate opens its ring usually at a fixed location, where we assume the genes for plasmid transfer to be located.

Plasmids carry certain information that is *not strictly necessary for survival*. Medically important is that they **contain genes for antibiotic resistance and Sulfonamide resistance** and thus gain resistance to these agents (RTF = resistance transfer factor). They also contain genes that affect the pathogenicity of bacteria.

Plasmids are important for research in Genetic engineering.



## Links

### Related articles

- Gene manipulation and genetic engineering
- Biochemistry of genetic engineering
- Genetic modification
- Amplification and expression of an isolated gene in a host cell
- Recombinant DNA
- Gene therapy
- Parasexual events in bacteria

### External links

- Plazmid (czech wikipedia)
- Plasmid (english wikipedia)

### Source

- OTOVÁ, Berta. *Lékařská biologie a genetika : 1.díl*. Praha 2008 edition. Nakladatelství karolinum, 2008. ISBN 978-80-246-1594-3.
- Jan Jelínek, Vladimír Zicháček. . *Biologie pro gymnázia : (teoretická a praktická část)*. - edition. 2014. 579 pp. ISBN 9788071823384.