

# SUPERMARKT ERBUNDGUT - OUR OFFER

The genetic material of all living organisms is stored in the sequence of four **MOLECULAR LETTERS**, the so-called **BASES**: Adenine (A), cytosine (C), guanine (G) and thymine (T).

---

**CHROMOSOMES** are found in the cells of all living organisms. They consist of the genome rolled up in a spiral DNA. Most living organisms have a double (diploid) **SET OF CHROMOSOMES**, so each chromosome is present twice in each cell.

---

**SET OF CHROMOSOME**: See chromosome

---

**CISGENESIS**: See transgenesis

---

**CRISPR/CAS9**: See genome editing

---

**DNA** means desoxyribonucleinacid and describes that molecule consisting of **BASE PAIRS** adenine, cytosine, guanine, thymine and stabilised proteins.

---

**ENZYMES** are the body's own molecules - mostly proteins - that accelerate chemical reactions and thus control the metabolism of an organism.

---

**GENES** are sections in the genome of an organism in which information about the construction of proteins is encoded. They consist of sequences of the four letters of the genome, the so-called **GENE SEQUENCE**.

---

The **GENOME** is the totality of the genetic information in a cell.

---

**GENOME EDITING** is an umbrella term for technologies that can be used to make targeted changes in the genome. **CRISPR/CAS9** is one of the most efficient of these **GENETIC SCISSORS**.

---

**GENE SCISSORS**: See genome editing

---

**GENE SEQUENCE**: See gene.

---

**GMO - GENETICALLY MODIFIED ORGANISMS**. These are plants and animals whose genome has been specifically modified by genetic engineering methods.

---

**MUTAGENESIS**: See mutation

---

**MUTATIONS** are permanent changes in the genetic material of living beings. They can arise spontaneously or be produced by mutagenesis in a natural (e.g. UV radiation) or artificial way (e.g. chemicals in the laboratory). The **MUTATION RATE** describes the relative frequency with which mutations occur or are caused in the genetic material.

---

**MUTATION RATE**: See mutation

---

**OFF-TARGET CHANGES** are undesired changes in the genome that can occur as side effects when genome editing or other genetic engineering processes are used.

---

In transgenesis genes of other species are integrated into the genome of an organism, in **CISGENESIS** genes of the same species, e.g. of another variety, are integrated into the genome of an organism.