

## General

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**Gavage:** Administration of a liquid via a stomach tube, commonly used as a dosing method in toxicity studies.

**Gene:** The functional unit of inheritance: a specific sequence of nucleotides along the DNA molecule, forming part of a chromosome (qv).

**Gene expression:** The process by which the information in a gene is used to create proteins or polypeptides.

**Gene families:** Groups of closely related genes that make similar products.

**Gene mutation:** A permanent alteration in the DNA sequence that makes up a gene, such that the sequence differs from what is found in most people. Mutations range in size; they can affect anywhere from a single DNA building block (base pair) to a large segment of a chromosome that includes multiple genes.

**Gene product:** The protein or polypeptide coded for by a gene.

**Genetic engineering:** Altering the genetic material of cells or organisms in order to make them capable of making new substances or performing new functions.

**Genetic polymorphism:** a difference in DNA sequence among individuals, groups, or populations (e.g. a genetic polymorphism might give rise to blue eyes versus brown eyes, or straight hair versus curly hair). Genetic polymorphisms may be the result of chance processes, or may have been induced by external agents (such as viruses or radiation). Changes in DNA sequence which have been confirmed to be caused by external agents are generally called “mutations” rather than “polymorphisms”.

**Genetic predisposition:** susceptibility to a disease which is related to a polymorphism, which may or may not result in actual development of the disease.

**Genetically modified organism (GMO):** An organism which has had genetic material inserted into, or removed from, its cells.

**Genome:** All the genetic material in the chromosomes of a particular organism; its size is generally given as its total number of base pairs.

**Genomic DNA:** The basic chromosome set consisting of a species-specific number of linkage groups and the genes contained therein.

**Genomic imprinting:** The phenomenon whereby a small subset of all the genes in our genome are expressed according to their parent of origin.

**Genomics:** The study of genes and their function.

**Genotoxic:** The ability of a substance to cause DNA damage, either directly or after metabolic activation (see also carcinogens).

**Genotype:** The particular genetic pattern seen in the DNA of an individual. 'Genotype' is usually used to refer to the particular pair of alleles that an individual possesses at a certain location in the genome. Compare this with phenotype.

**Germ cells:** Cells that give rise to the gametes of an organism that reproduces sexually. The cells undergo mitotic and meiotic cell division in the gonads followed by cellular differentiation into mature gametes, either oocytes or sperm.

**Glandular stomach:** The stomach in rodents consists of two separate regions - the forestomach and the glandular stomach. Only the glandular stomach is directly comparable to the human stomach.