

Glossary of Genetics Terms

Allele: One of two or more different genes that could occupy the same place on a chromosome allowing hereditary variation. For example, an allele for white flowers or red flowers.

Amino Acid: One of the building blocks of proteins; there are twenty common amino acids.

Autosome: A chromosome that is not a sex chromosome (any but the X and Y).

Chromosomes: Rod shaped structures found in the nucleus of every cell in an organism. The DNA of an organism is located on the chromosome.

Codominance (Incomplete Dominance): A condition in which heterozygous offspring has a phenotype that is distinct from its homozygous parents. This means that neither allele can mask the expression of the other allele. An example in humans is the ABO blood group where an A parent and B parent produce an AB offspring.

DNA: Deoxyribonucleic acid: the molecule that stores and passes on genetic information from one generation to the next.

Dominant Trait: A trait that produces the same phenotypic effect whether it was inherited homozygously or heterozygously; an allele that masks another. For example, brown eyes are dominant to blue eyes in humans.

Gene: The basic unit of heredity, which is passed down from parent to offspring and can be transcribed in protein chains.

Genetics: The study of heredity or the passing on of traits from an organism to its offspring.

Genetic Engineering: The scientific alteration of the genetic material of an organism.

Genetic Fingerprinting: A method of identification exploiting differences in the number of repetitions of certain DNA sequences between individuals in a population. This method is often used in forensic science.

Genotype: The genetic makeup or constitution of an organism.

Heredity: The passing down of traits from parents to offspring.

Heterozygote: An organism that possesses two different alleles of a given trait. For example, an allele for white flowers and an allele for red flowers.

Homozygote: An organism that possess two identical traits of a given gene. For example, two alleles for white flowers.

Human Genome Project: An internationally funded project that identified both the function of genes and their location (in humans). It was declared complete on April 14, 2003.

Mutation: A change in the DNA of an organism.

Phenotype: The physical characteristics associated with a certain genotype.

Protein: A fundamental component of all living cells made up of amino acids and coded for by DNA.

Recessive Trait: A trait only produces its phenotypic effect when inherited homozygously; a trait masked by a dominant trait. For example, in humans blue eyes is a recessive trait and brown eyes is dominant.

X-Linked (Sex-Linked): Linked to the X chromosome.

Traits: Physical characteristic of an organism.