

# Genome Encyclopedia Article

## Genome

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# Genome

The genome, (sometimes genom) is the full set of genes carried by a gamete. It comprises one representative of each of the chromosome pairs of the adult diploid parent. In other words, a genome is a single set of genetic instructions. Not all of the alleles within a genome are expressed. Some are masked by the presence of dominant forms. A genomic library, or genomic bank, is a full genome stored as recombinant DNA molecules.

The genomic formula is a mathematical expression of the number of genomes present in an individual cell or organism. One of the commonly encountered genomic formulae is the haploid which is represented by  $n$ . This is sometimes called the basic number. The diploid form, which has two sets of a genome, is  $2n$ ; the triploid is  $3n$ , and the tetraploid is  $4n$ . Genetic abnormalities, where one chromosome is missing from the genome, can be represented in the same manner. For example, a diploid organism with one chromosome missing is a monosomic cell and is represented by  $2n-1$ . A diploid with two chromosomes missing is termed a nullisomic and is represented by  $2n-2$ . Additions of chromosomes can also occur and are represented in the same form; for example,  $2n+1$  is trisomic.