Locus (Loci) Encyclopedia Article

Locus (Loci)

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Locus (Loci)

The physical location of a **gene** on a **chromosome** is referred to as the gene locus. The positions of multiple genes are referred using the plural form, gene loci. The location of a gene or group of genes on a physical map is also designated as the gene locus or (pl.) gene loci.

Although the term allele is correct, alleles themselves are often referred to in **genetics** related literature by the term loci. In this case, the designation conveys the meaning that at a specific location on a chromosome there exists a form of a gene (allele) with defined characteristics (e.g., a gene that codes for a particular protein). The term loci is also at times further expanded to describe all the forms of alleles that may exist at a particular location (i.e., a gene).

Instead of restricting the use of loci to designate the position of genes, during recent years there has been an increasing trend to broaden the use of the term loci to encompass the physical location of a number of genetic or chromosomal marker. In addition, **intergenic regions** that are not expressed as genes can also be referred to as having a certain locus along a chromosome. In the case of intergenic regions, the term locus simply designates an unexpressed sequence of **DNA** nucleotides.

The site of action along a chromosome or strand of DNA is referred to at the locus of action (e.g. the site where a restriction enzyme cuts the DNA strand). The location of a sequence within a satellite DNA is also referred to as the DNA sequence locus.

Models of genetic control and regulation are often described as single-locus or multi-locus models (i.e. where the interactions of genes at different physical loci produce a combined effect differing from the function of the individual genes acting alone).