

# Editorial Highlights on Molecular Markers

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## Editorial

Molecular markers allow for the identification of variations or polymorphisms in specific DNA regions that occur among individuals in the population (e.g. RFLP, AFLP, SNP, etc.). In gene localization, molecular markers serve three purposes: (1) A marker allows for the direct detection of the gene of interest rather than the gene product, making it a valuable tool for screening somatic mutations. A marker is used in a variety of DNA probes and simple-to-screen techniques. It also aids in the physical mapping of genes using *in situ* hybridization. (2) Molecular markers have enough markers for linkage analysis to create genetic maps. On the basis of two types of molecular markers, genetic maps are produced. Type I markers (e.g., classical RFLPs and SSLPs) represent evolutionary conserved coding sequences and are useful in comparative mapping strategies where polymorphism is not needed. These, on the other hand, are mainly single locus and di-allelic (SLDA) and therefore useless for linkage research. Type II markers, on the other hand, (such as microsatellite markers) have a higher polymorphism information content than traditional RFLPs and can be made quickly and easily. As a result, significant

effort is being made to create gene maps based on type II markers. It is also beneficial to use molecular markers produced from DNA sequence knowledge (such as ASO and STMS polymorphic markers). Type II markers, on the other hand, (such as microsatellite markers) have a higher polymorphism information content than traditional RFLPs and can be made quickly and easily. As a result, significant effort is being made to create gene maps based on type II markers. It is also beneficial to use molecular markers produced from DNA sequence knowledge (such as ASO and STMS polymorphic markers).

Moral philosophy, also known as ethics, is a branch of philosophy concerned with systematising, defending, and recommending principles of right and wrong actions (e.g. ethical issues related to animal research). The use of genetic biomarkers in epidemiological research poses a number of social and ethical questions, including the collection of molecular markers and study techniques, as well as the recruitment of participants. Several of these concerns are similar to those that arise when some kind of biomarker is used in epidemiology. Other issues are directly related to the use of genetic information and the perception that genetic data poses unique concerns about privacy, abuse risk, and psychosocial effects. Cloning poses questions from both a legal and a realistic standpoint.

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