

Editorial



Application of molecular techniques in medicine

Future medicine based on the genome data base will go towards individualized medicine for better health care activities. Gene therapy is a new field in medicine which does is concerned by molecular techniques. Some genetic disorders are caused due to abnormalities in genes. Gene products (proteins, enzymes, hormones ...) are impaired. For many years, scientists wish to repair the genes (functional genes) instead of fighting against disorders. Various methods and tools are available, choosing the techniques and strategies for gene repairing and genetic disorder depends on the location and type of disorders.

Gene repair techniques:

Gene Replacing: This technique is used for repairing disorders related to the gene product (protein). Repaired gene is transferred by a vector and will insert in the desired genome location.

Gene Inhibition: This technique is used in cancer cases, which cell activities are out of the cell control. In this technique, antisense, micro RNA or siRNA are used for inhibition of the gene mRNA and its products are prevented.

Genetic engineering is a technique by which the genome of an organism is changed by biotechnological techniques and new characters are added or removed from the organism. Genetic engineering techniques are used for recombinant products (drugs, diagnostic kits and) and assumed a major role in the countries political and economical independency. Today, many drugs are produced as recombinant by this method. Direct changes in DNA strand created by genetic engineering techniques are used for creating transgenic mice. Mice will carry mutant human genes and human diseases are investigated in mouse model.

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