



Short
Communication

Brief Note on Genomics and It Types

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Abstract

Genomics: Is the interdisciplinary field of biology and it is sub discipline of genetics (Mapping, Sequence and Functional analysis of genomics) A genome is the complete set of DNA, including all of its genes Genomics build on R-DNA Technology and this include the study of inter-genomic phenomena and other interactions between the genome. It involves the study of all genes and their interrelation ships.

Objective: The main objective is to describe the importance of genomics & Bioinformatics in biomedical Research. Perform searches using various accessible tools and databases and tools.

Keywords

Genome; Gene, DNA; Prediction

Introduction

Types of Genomics includes

- Structural Genomics
- Comparative Genomics
- Functional Genomics
- Epigenomics
- Metagenomics
- Pharmacogenomics
- Mutation Genomics.

Structural genomics is used to describe three dimensional structure of every protein encoded by a given Genome rather than focusing on one particular protein .Identify novel protein folds and 3-D structures for better understanding the functions of protein. structural genomic involves taking large number of approaches to structure determination including experimental methods modelling based approaches or genomic sequences. Structurally have role in determining of protein function. Structural genomics used in drug discovery and in protein on large scale.

Comparative Genomics is a field of biology in which each elements may incorporate the DNA grouping, qualities,

request, and other genomic structural landmarks. The aim of comparative Genomics feature between different species , and to describe function of each genome Eg: Studying genes in model organisms.

Comparative genomics also provides a powerful tool for

Studying Evolutionary changes

Helping to Identify genes that are conversed or common among species.

Genes that give each organism its unique characteristics

Functional Genomics mainly focuses on Gene transcription and Translation and related the sequence with known function. And functions of gene and Non-sequences in genomes, Gene and protein Interaction

Techniques used in functional Genomics are At the DNA level.

Gene expression Profiling at transcript level.

Proteome analysis.

Epigenomics is the study of complete set of epigenetic modifications on the genetic material of the cell.

Meta Genomics is the study of genetic material directly from Environmental samples and this can be broadly referred as Environmental Genomics, Ecogenomics or Community Genomics.

Pharmacogenomics : Is the study of how Variation in the human population Correlates with drug response pattern.

Mutational Genomics: The study of Genome in terms of mutations that occurs in individual DNA or Genome.The main aim is to determine the function of gene or anonymous sequence.

Applications

- Gene discovery and diagnosis of rare monogenic disorder.
- Gene therapy, Gene Editing, Pharmacogenetics and Targeted Therapy
- Analysis of Gene Expression Profile
- Data base of model organism
- Identify and Comparison of new nucleic acid sequencing
- Screening of Poisonous side effect gene

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