

Epigenetics and Human Diseases

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Introduction

Epigenetics is a whole new look at the RNA area of Genetics and Molecular Biology, which investigates the structure and function of genes at a molecular level. The study of chromosomes and the quality of a life form's expression can reveal information about inheritance, hereditary mutations and changes. This is useful for research into developmental biology and the treatment of hereditary illnesses, as it simplifies the complicated phenomenon of epigenetic mechanisms and protein expression. The conference will concentrate on using systems biology to better understand, diagnose, and treat human diseases and cancers. The ability to gain a big image of illness and how it affects people delivers a clear picture of the main human genome, which is then transformed into useful quality calming classification, assurance and therapy.

Track 1: Epigenetic therapy

The use of medicines or different epigenome-influencing approaches to treat medical diseases is thought as epigenetic medical aid. Epigenetic pathways play a job in a very type of diseases, together with cancer, cardiopathy, diabetes, and mental issues. Epigenetic medical aid could also be a method to directly modify such circuits. It's been projected that epigenetic medication might forestall the formation of cancer root cells whereas conjointly killing drug-resistant cancer cells. On the opposite hand, some epigenetic marks will be reversible, and this reality has inspired several researchers to concentrate on epigenetic medical aid. Epigenetic pathways play a job in a very type of diseases, together with cancer, cardiopathy, diabetes, and mental issues. Epigenetic medical aid could also be a method to directly modify such circuits.

- p53 Gene Therapy
- Immunotherapy
- DNA Methyltransferase Inhibitors

Track 2: Epigenetic of neurological disease

Epigenetic mechanisms like DNA methylation and modifications to simple protein proteins regulate high-order DNA structure and organic phenomenon. Aberrant epigenetic mechanisms area unit concerned within the development of the many diseases, together with cancer. Both patients and care prices area unit burdened by medicine disorders, notably neurodegenerative disorders. Despite substantial analysis, medical care

selections for individuals with these disorders area unit restricted and, in most cases, solely offer minor symptomatic improvement. Aberrant epigenetic post-translational modifications of proteins area unit rising as necessary parts within the pathologic process of disorder.

- Alzheimer's disease
- Histone deacetylase
- Huntington's disease

Track 3: Environmental and nutritional epigenetics

Environmental epigenetics defines however cellular epigenetics and human health full of environmental factors. To control organic phenomenon epigenetic marks alter the spatial body substance conformation. Environmental factors with epigenetic effects embrace behaviour, nutrition and chemicals and industrial pollutants. Throughout the event of utero and at the cellular level epigenetic mechanisms are involved, therefore environmental exposures could damage the foetus by impairing the epigenome of the developing organism to change malady risk later in life.

- Epigenetic effects of environmental exposures
- Toxicogenetics
- Epigenetics and environmental origins of cancer

Track 4: Pharmacogenomics and personalized medicine

A pharmacogenetic test is employed for stratification of patients supported their genotype that corresponds to their metabolizing capability. This prevents the prevalence of severe adverse drug reactions and helps in higher outcome of clinical trials. This might put together reduce attrition of drug compounds. Precision medication aims to customize health care, with alternatives and coverings tailored each} individual in each approach come-at-able. Pharmacogenomics is a part of preciseness medication. Although genomic testing remains a relatively new development in drug treatment, this field is apace increasing.

- Methylation inhibiting drugs
- Protein methyltransferase inhibitors
- Epigenetics meets endocrinology

Track 5: Cytogenetics

Genetics features a branch known as genetics that's concerning the polymer structure inside the cell organ. This polymer is condensed whereas the division of cells and type chromosomes. The cytology is relating to the quantity and morphology of chromosomes, the physical location of genes on chromosomes, and body behaviour and body abnormalities in processes like biological process. In most body cells with the exception of cells of generative et al. like the liver square measure continually constant thanks to the morphology of chromosomes in an exceedingly cell of a selected species.

- Molecular cytogenetics
- Cytotaxonomy
- Cancer cytogenetics