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MEDICAL BIOCHEMISTRY

It’s all about understanding the molecular basis of health and diseases. It is the study of the chemical substances and processes that occur within living organisms and how they relate to various medical conditions. Its understanding is essential for clinicians, Researchers and health care providers as it provides insights into underlying various conditions. This fields historical development is rich and varied, with milestones that include the discovery of DNA’s double helix structure and the elucidation of metabolic pathways. These breakthroughs have paved the way for more in-depth research.

Its key concepts include

* biomolecules which are; carbohydrates, lipids, proteins and nucleic acids.
* Enzymes, which are catalysts that facilitate a chemical reaction, and metabolism which involves a network of chemical reactions that occur in a living organism to maintain life.
* Molecular genetics, which explores the link between DNA, genes, and inherited diseases.

MEDICAL APPLICATIONS OF BIOCHEMISTRY

1. Clinical chemistry

Biochemical tests are essential in diagnosis and monitoring of diseases. These tests analyze blood, urine and other bodily fluids to assess organ function, nutritional levels, and the presence of specific markers of disease.

1. Pharmacology

The field of pharmacogenomics tailors drugs regiments to an individual’s genetic make up , maximizing therapeutic benefits while minimizing side effects.

1. Disease mechanisms

It helps understand how mutation in specific genes led to the development of cancer hence researchers can develop more targeted and effective treatments.

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