

The study of physical, chemical and molecular biology in biochemistry.

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Description

Biochemistry is an application of chemistry for studying biological processes at the cellular and molecular levels. It emerged as a separate discipline in the early 20th century when scientists studied the chemistry of life systems by combining chemistry, physiology, and biology. Biochemistry is used to understand the biological processes that occur in cells and organisms. Biochemistry can be used to study the properties of biomolecules for a variety of purposes. Biochemistry is both life science and chemical science, studying the molecular basis of biological chemistry and changes in living cells. "Biochemistry has become the basis for understanding all biological processes and explained the causes of many diseases in humans, animals and plants."

Biochemists study the structure and behaviour of complex molecules in biological materials, and how these molecules interact to create cells and tissues, and form whole organisms and study them. Many biochemists work in chemistry laboratories. Some biochemists may focus on modelling what leads to work on a computer. Some biochemists work in this area, studying the biochemical systems of living organisms. Biochemists are usually associated with other scientists and engineers. Some biochemists belong to universities and can teach in addition to research. Usually, their research allows them to have a regular work schedule in a place with good salaries and benefits.

Biochemists are interested, for example, in the mechanisms of brain function, cell reproduction and differentiation, cell-to-organ and cell-to-organ communication, and the chemical basis of heredity and disease. Biochemists want to know how certain molecules, such as proteins, nucleic acids, lipids, vitamins, and hormones, work in such processes. Particular emphasis is placed on the regulation of chemical reactions in living cells. Biochemistry focuses on processes that take place at the

molecular level. It focuses on what is happening in our cells and studies components such as proteins, lipids and organelles. Research is also being conducted on how cells communicate with each other, such as when they are growing or fighting a disease.

Biochemists need to understand how the structure of a molecule is related to its function so that it can predict how the molecule will interact. Biochemistry includes many scientific disciplines such as genetics, microbiology, forensic medicine, plant science, and medicine. Due to its breadth, biochemistry is very important and the progress in this scientific field over the last 100 years is astounding. Participating in this fascinating field of study is a very exciting time. Biochemists provide new ideas and experiments to understand how life works, to support understanding of health and illness, and to provide innovative information for the technological revolution. Biochemists work in many locations, including hospitals, universities, agriculture, food laboratories, education, cosmetics, forensic research, and drug research and development. Biochemists have many transferable skills such as analysis, communication, research, problem solving, numerical, observation, and planning. Biochemistry is closely related to other biological sciences dealing with molecules. There is considerable overlap between these disciplines such as molecular genetics, pharmacology, molecular biology, and chemical biology.

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