

<<Biochemistry-生物化学>>

图书基本信息

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内容概要

In the past decade , medical education achieved great development in Capital Medical University , China (CCMU) , serving the students coming from all parts of China and overseas. On the one hand , the growing number of foreign students at CCMU crave for English books suitable for the teaching and learning with the Chinese medical education system; on the other hand , the Chinese students are asked and eager to actively participate in the international academic exchanges nowadays. To meet the needs of both foreign and Chinese students majoring in basic and clinic medical sciences , CCMU puts forward a project to compile textbooks in English as a part of the university's developing strategy and objectives , which are "based on Beijing , embracing the nation; leading in China and recognized around the world". Thus , the textbook of biochemistry in English was prepared by the senior instructors in the Department of Biochemistry and Molecular Biology , CCMU.

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章节摘录

版权页：插图：1.4.2 Protein Solution Behaves Colloid Property Proteins are polymers with molecular weights generally in 10-1,000KD. According to the measurement knowledge, for example, a globular protein with molecular weight of 34.5KD, the particle diameter is 4.3nm. Therefore, the particle diameter of protein molecules are generally in 1-100nm, forming a colloidal solution in water, with a Tyndall phenomenon, Brownian motion. not through a semipermeable membrane, slower diffusion, greater viscosity etc. Proteins contain many hydrophilic groups such as amino, carboxyl, hydroxyl, thiol and amide group on the surface, which form a hydration shell with water molecules to separate the particles of protein molecules with each other. In addition, proteins carrying the same type of charges make electric repulsion. Hydration shell and electric repulsion make proteins stable in solution. 1.4.3 Proteins may Undergo Denaturation and Renaturation The process in which a protein loses its native conformation under the treatment of denaturants is called protein denaturation. The denaturants include physical factors such as heat, ultraviolet light, violent shaking, and chemical factors such as strong acids, bases, organic solvents and detergents. A loss of three dimensional structure is sufficient to cause change of physical and chemical properties and biological characteristics of proteins, loss of function, but does not affect the primary structure of proteins. Denaturation is essentially the breakage of noncovalent bond (hydrogen bond, ionic bond, hydrophobic interactions, etc.). The denatured proteins tend to decrease in solubility, increase the viscosity, and lose the biological activity. Denaturation of some proteins is reversible.

编辑推荐

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