

Connective tissue is a multicomponent, polyfunctional complex of cells and extracellular matrix that serves as a framework for all organs, combining to form a unified organism. It is a structure responsible for numerous vital functions such as tissue-organ integration, morphogenesis, homeostasis maintenance, biomechanical support, and more. The regeneration potential of connective tissue affects healing of damaged tissue and organs, while trauma, stress, and other factors that cause damage to connective tissue can lead to numerous disorders.

Connective Tissue: Histophysiology, Biochemistry, Molecular Biology brings together crucial knowledge of mammalian connective tissue (including human) and its components, both cellular and noncellular, in one authoritative reference. The breadth and depth of information has fundamental scientific significance as well as applied relevance in clinical medicine. The first half of the book covers the structure, classification, biochemical aspects, histogenesis, and cellular elements of connective tissue. It presents data from the macro- to nanolevel organization of the extracellular matrix—its structural and functional aspects—and addresses metabolic functions and the biochemistry and molecular biology of connective tissue ageing.

The second half of the book reviews current data on the biochemistry and molecular biology of skeletal connective tissue, including bone and cartilage metabolism and regulation. It presents an in-depth analysis of data on the molecular mechanisms of connective tissue ontogenesis, from embryonic development through ageing. It also reports novel findings on bone marrow stroma and describes electron microscopy results of the nanostructure of bone mineral, mineralized cartilage, and teeth compared with coral and seashells. Comprising both classic and modern data on the histopathology, biochemistry, and molecular biology of connective tissue, this book provides a unique resource for clinicians and researchers alike.



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