

Molecules of Life & Mutations

This book provides insights into the structures and functions of 130 of the most important biomolecules and their interactions with other endogenous or exogenous molecules. These interactions are illustrated by 3-dimensional images of their atomic structures rather than by abstract formulas or acronyms. The author has compiled an extraordinary collection of molecules which he has visualized in pictures of stunning clarity and beauty by applying molecular modelling software to their atomic coordinate files (deposited in the Brookhaven Protein Data Bank (PDB)). Together with short explanatory texts they provide the reader with a deepened understanding of biological phenomena in the normal as well as the diseased organism.

Following a novel didactic approach, this book distills the most important facts in a clear and concise manner, thus making it accessible to the nonspecialist reader as well; at the same time it serves as a guide to the vast amount of information stored in authoritative Internet databases such as the PDB and OMIM (Online Mendelian Inheritance in Men) databanks. For an in-depth study of structures and genetic diseases, an enhanced index listing databank accession numbers, gene name and chromosomal location of each molecule under consideration is added, which can also be accessed online on the book's website. A detailed list of useful Internet resources rounds off the practical value of this textbook.

Mutations can cause diseases by producing functionally altered proteins, and understanding the exact nature of diseases from the structures of the proteins involved is the aim of this book. Impressive both by its instructive and its esthetic quality, it reflects the newly emerging field of molecular medicine and thus will be appreciated not only by biologists, physicians and pharmacologists, but will also be especially useful to medical students and lecturers, and anyone with an interest in the life sciences.

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