

Siegfried Schwarz

# Molecules of Life & Mutations

Understanding Diseases  
by Understanding Proteins

Accession numbers in the index provide you with a direct gateway to the wealth of information stored in the most authoritative internet databanks!

	PDB number	Gene name	Chromosomal localization	OMIM number	Page in this book
Calmodulin	+CLM	CALM1	14q24-q31	114180	3, 58
Insulin receptor tyrosine kinase domain	1IRK	INSR	19q13.2	147670	57



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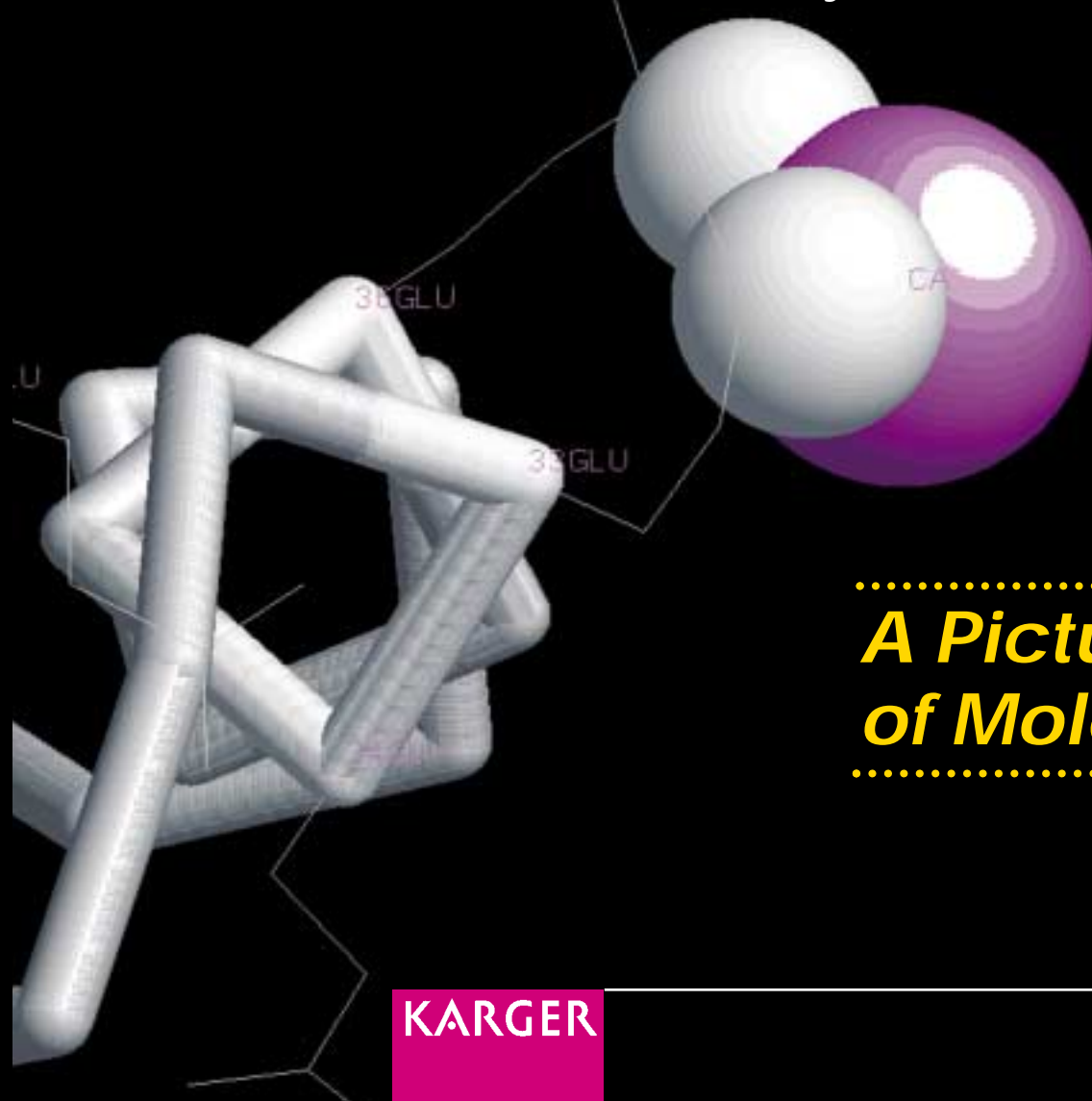
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# Molecules of Life & Mutations

Understanding Diseases  
by Understanding Proteins



**A Picture Book  
of Molecules!**

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# Molecules of Life & Mutations

Understanding Diseases  
by Understanding Proteins

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.

#### Fields of Interest

Molecular Biology, Biochemistry, General Medicine, Molecular Medicine, Pharmacology, Endocrinology

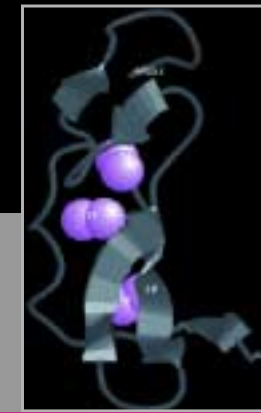
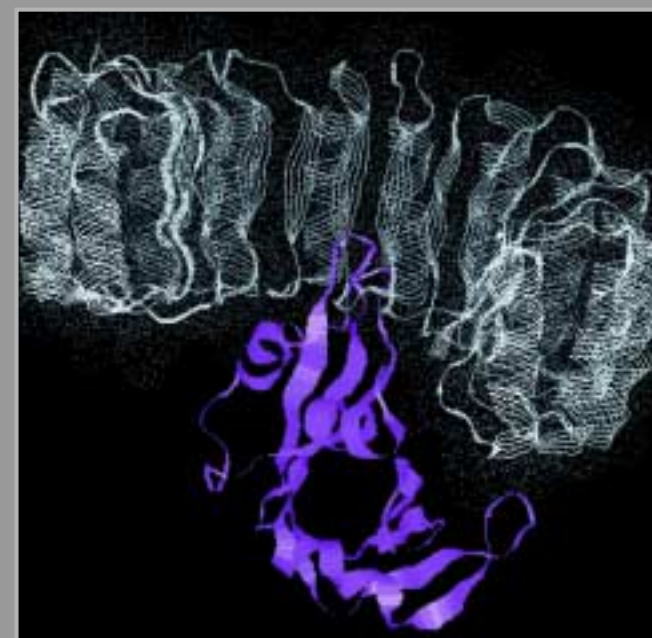
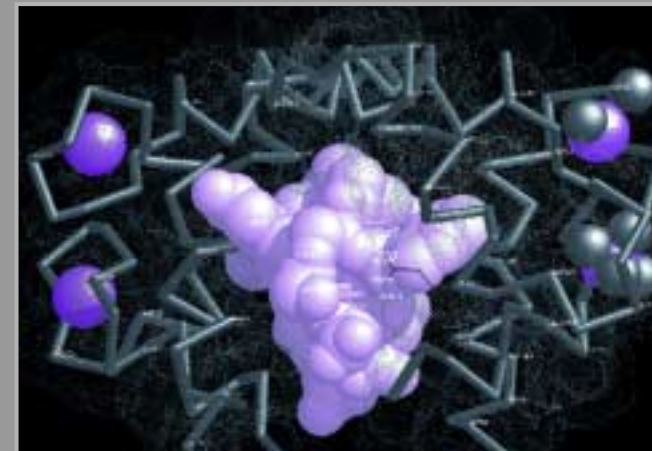
#### About the Author

Siegfried Schwarz is professor at the Department of Pathophysiology at the University of Innsbruck, Austria. His research is focused on structure-function relationships of glycoprotein hormones, especially human chorionic gonadotropin (hCG) and the hCG receptor.



Siegfried Schwarz (Innsbruck)  
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