Neurodegenerative Diseases and Metal Ions, Volume 1
Astrid Sigel (Editor), Helmut Sigel (Editor), Roland K. O. Sigel (Editor)

E-Book 978-0-470-02810-0 July 2006 $266.99
Hardcover 978-0-470-01488-2 May 2006 $332.75
O-Book 978-0-470-02811-7 July 2006 Available on Wiley Online Library

DESCRIPTION

About the Series...

Metal Ions in Life Sciences links coordination chemistry and biochemistry in their widest sense and thus increases our understanding of the relationship between the chemistry of metals and life processes. The series reflects the interdisciplinary nature of Biological Inorganic Chemistry and coordinates the efforts of scientists in fields like biochemistry, inorganic chemistry, coordination chemistry, molecular and structural biology, enzymology, environmental chemistry, physiology, toxicology, biophysics, pharmacy, and medicine. Consequently, the volumes are an essential source for researchers active in these and related fields as well as teachers preparing courses, e.g., in Bioinorganic Chemistry.

About this Book...

Volume 1, devoted solely to the vital research area concerning the role of metal ions in neurodegenerative diseases, offers in 15 stimulating chapters an authoritative and timely view of this fascinating subject.

Written by 41 internationally recognized experts, Neurodegenerative Diseases and Metal Ions highlights, supported by 130 illustrations, the recent progress made in understanding the role metal ions play in diseases like transmissible spongiform encephalopathies (Creutzfeldt-Jakob and related diseases), Alzheimer's, Parkinson's, Huntington's, Wilson's and Menkes' diseases, as well as in familial amyotrophic lateral sclerosis and others. The interplay between metal ions, catecholamines and the formation of...
reactive oxygen species resulting in oxidative stress is considered, as is the metalloneurochemistry of zinc and the neurotoxicity of aluminum, cadmium, lead, and mercury. The need for novel drugs which manipulate metal-centered neuropathology is emphasized.

ABOUT THE AUTHOR

Astrid Sigel has studied languages and was an editor of the Metal Ions in Biological Systems series (until Volume 44) and also of the Handbooks on Toxicity of Inorganic Compounds (1988), on Metals in Clinical and Analytical Chemistry (1994; both with H. G. Seiler), and on Metalloproteins (2001; with Ivano Bertini) (Dekker, New York).

Helmut Sigel is Emeritus Professor (2003) of Inorganic Chemistry at the University of Basel, Switzerland, and a previous editor of the MIBS series until Volume 44. He serves on various editorial and advisory boards, published over 300 articles on metal ion complexes of nucleotides, coenzymes, and other biologically relevant ligands. He lectured worldwide and was named Protagonist in Chemistry (2002) by ICA (issue 339). Among further honors are the P. Ray Award (Indian Chemical Society, of which he is also an Honorary Fellow), the Werner Award (Swiss Chemical Society), a Doctor of Science honoris causa degree (Kalyani University, India), appointments as Visiting Professor (e.g., Austria, China, UK) and Endowed Lectureships.

Roland K. O. Sigel is Assistant Professor (2003) of Inorganic Chemistry at the University of Zürich, Switzerland, endowed with a Förderungsprofessur of the Swiss National Science Foundation. He received his doctoral degree summa cum laude (1999) from the University of Dortmund, Germany, working with Bernhard Lippert; thereafter he spent nearly three years at Columbia University, New York, USA, in the group of Anna Marie Pyle (now Yale University); during the six years abroad he received several fellowships from various sources. His research focuses on the structural and catalytic role of metal ions in ribozymes, especially group II introns, and on related topics. He was also an editor of Volumes 43 and 44 of the MIBS series.

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