

By way of its clear and logical structure, as well as abundant high-resolution illustrations, this is a systematic survey of the players and pathways that control genome function in the mammalian cell nucleus. As such, this handbook and reference ties together recently gained knowledge from a variety of scientific disciplines and approaches, dissecting all major genomic events: transcription, replication, repair, recombination and chromosome segregation. A special emphasis is put on transcriptional control, including genome-wide interactions and non-coding RNAs, chromatin structure, epigenetics and nuclear organization.

With its focus on fundamental mechanisms and the associated biomolecules, this will remain essential reading for years to come.



Karsten Rippe leads the Research Group Genome Organization & Function at the German Cancer Research Center and the BioQuant Institute in Heidelberg, Germany. In his research, he combines molecular/cell biology and physics to quantitatively investigate and model the relation between nuclear DNA organization and cell function. Karsten Rippe has obtained his academic degrees from the University of Göttingen while working at the Max Planck Institute for Biophysical Chemistry and continued his scientific career at the University of Oregon in Eugene and the Kirchhoff-Institut für Physik in Heidelberg. He has authored more than 80 scientific publications in the fields of DNA structure, transcription and chromatin and has received several scientific awards, including the Otto Hahn medal of the Max Planck Society and the European Beckman DNA Award.

ISBN 978-3-527-32698-3



www.wiley-vch.de