This book provides the reader with a comprehensive view of analytical methods for nanotoxicology studies. After an introduction to nanomaterials and toxicological studies, the book discusses various characterization methods of nanomaterials and continues with the detection of nanoparticles in vivo as well as in vitro. A variety of techniques in molecular toxicology of nanomaterials is presented, followed by a detailed explanation of interaction between nanoparticles and biomacromolecules, including the structure-toxicity relationships of nanomaterials. Finally, the book concludes with the advantages and challenges of the analytical methods for nanotoxicology.

ABOUT THE AUTHOR

Zhiyong Zhang holds a PhD in radiochemistry from Beijing University, China. He is a professor and a scientific leader in environment health and safety at the Chinese Academy of Sciences in the Key Laboratory for Biomedical Effects of Nanomaterials and Nanosafety. His current research interests are in coordination chemistry, bioinorganic chemistry, and environmental chemistry of rare earth elements, as well as toxicology and ecotoxicology of nanomaterials.

Weiyue Feng graduated from Fudan University of Applied Chemistry, China, in 1989 and received her PhD from the Institute of High Energy Physics, Chinese Academy of Sciences, in 1998. She is currently professor of inorganic chemistry and biological...
chemistry. Her primary fields of research include chemical biology, metallomics and metalloproteins as well as biological and toxicological studies of nanomaterials.

Yuliang Zhao is Professor in Chemistry and Physics. He moved to Chinese Academy of Sciences from RIKEN, Japan, as a Hundred Elite Professor in 2001. His research is mainly focused on the biomedical effects of nanostructures and nanoscale materials, including the biomedical functions of nanomaterials, the toxicological effects of nanomaterials and establishing standard procedures for safety assessment of nanoproducts, surface chemistry of nanoparticles and their novel properties, and molecular dynamics using theoretical simulation of the dynamic processes of the interplay between nanosystems and biosystems.

To purchase this product, please visit https://www.wiley.com/en-us/9783527337972