

1. Record Nr.	UNINA9910139509603321
Titolo	Quantitative modeling in toxicology [[electronic resource] /] / editors, Kannan Krishnan, Melvin E. Andersen
Pubbl/distr/stampa	Chichester, West Sussex ; ; Hoboken, : John Wiley & Sons, 2010
ISBN	1-282-68958-4 9786612689581 0-470-68626-X 0-470-68670-7
Descrizione fisica	1 online resource (505 p.)
Altri autori (Persone)	KrishnanKannan <1961-> AndersenMelvin E
Disciplina	615.90015118 615.907
Soggetti	Toxicology - Mathematical models Biological models
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Quantitative Modeling in Toxicology; Contents; Preface; About the Editors; About the Book; List of Contributors; SECTION 1 INTRODUCTION; 1 Quantitative Modeling in Toxicology: An Introduction; SECTION 2 PHYSIOLOGICALLY-BASED TOXICOKINETIC AND PHARMACOKINETIC (PBPK) MODELING; 2 PBPK Modeling: A Primer; 3 Pharmacokinetic Modeling of Manganese - An Essential Element; 4 Physiologically Based Modeling of Pharmacokinetic Interactions in Chemical Mixtures; 5 Physiological Parameters and Databases for PBPK Modeling; SECTION 3 MODELING TOXICANT-TARGET INTERACTIONS; 6 Modeling Cholinesterase Inhibition 7 Modeling of Protein Induction and Dose-Dependent Hepatic Sequestration8 Bistable Signaling Motifs and Cell Fate Decisions; 9 Ultrasensitive Response Motifs in Biochemical Networks; 10 Gene and Protein Expression - Modeling Nested Motifs in Cellular and Tissue Response Networks; 11 Modeling Liver and Kidney Cytotoxicity; SECTION 4 MODELING TISSUE AND ORGANISM RESPONSES; 12 Computational Model for Iodide Economy and the HPT Axis in the Adult

Rat; 13 Two-Stage Clonal Growth Modeling of Cancer; 14 Statistical and Physiological Modeling of the Toxicity of Chemicals in Mixtures
15 (Q)SAR Models of Adverse Responses: Acute Systemic Toxicity
SECTION 5 MODEL APPLICATION AND EVALUATION; 16 Modeling Exposures to Chemicals From Multiple Sources and Routes;
17 Probabilistic Reverse Dosimetry Modeling for Interpreting Biomonitoring Data; 18 Quantitative Modeling in Noncancer Risk Assessment; 19 Application of Physiologically Based Pharmacokinetic Modeling in Health Risk Assessment; 20 Uncertainty, Variability, and Sensitivity Analyses in Simulation Models; 21 Evaluation of Quantitative Models in Toxicology: Progress and Challenges; Index

Sommario/riassunto

Governments around the world are passing laws requiring industry to assess the toxicity of the chemicals and products they produce, but to do so while reducing, refining, or even replacing testing on animals. To meet these requirements, experimental toxicologists and risk assessors are adopting quantitative approaches and computer simulations to study the biological fate and effects of chemicals and drugs. In Quantitative Modeling in Toxicology leading experts outline the current state of knowledge on the modeling of dose, tissue interactions and tissue responses. Each chapter desc
