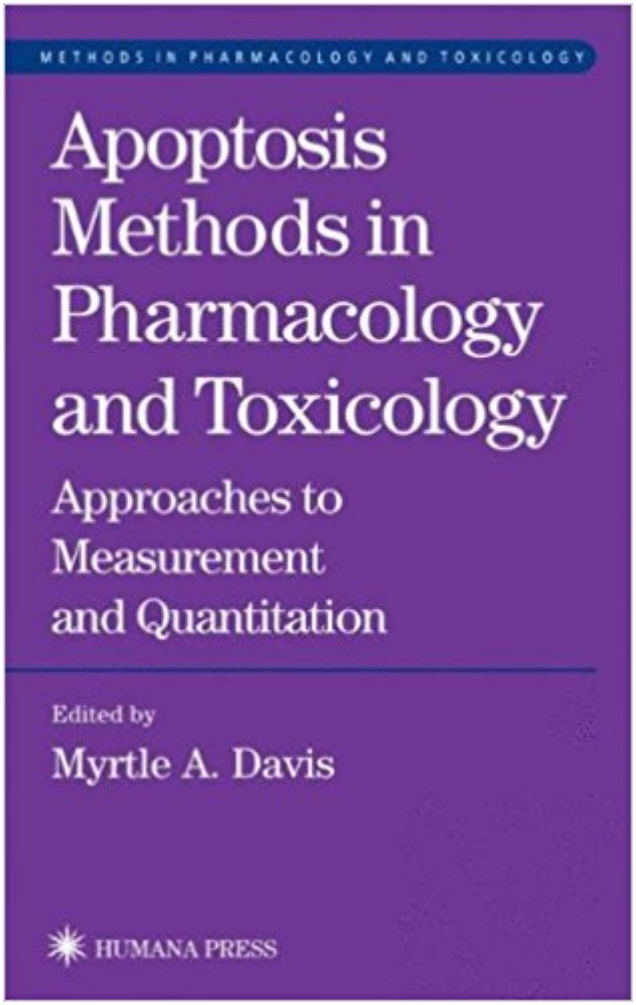
Apoptosis Methods In Pharmacology And Toxicology: Approaches To Measurement And Quantification



Synopsis

Dr. Myrtle A. Davis has assembled a panel of cutting-edge scientists to describe their best methods for detecting, illuminating, and quantifying apoptotic mechanisms in a way that is useful for the design of toxicology and pharmacology studies. These state-of-the-art techniques include flow cytometric, fluorometric, and laser scanning methods for quantifying and characterizing apoptosis, as well as protocols for the use of DNA microarray technology, high throughput screens, and ELISA. Immunocytochemical methods for measuring biochemical and molecular endpoints in tissue sections will be highly useful for those carrying out studies in whole animal models as opposed to cell culture systems.

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Customer Reviews

"The book emphasizes techniques that can be used to quantify apoptosis, such as cell morphology, flow cytometry, laser-scanning cytometry, ELISA, and DNA microarray. The flow cytometry and ELISA sections are the best, as they are applicable to a wide range of laboratories because of their ease of use do not require any extraordinary facilities. . .The book is well written and instructive, and the techniques described can be applied easily to topics in pharmacology and toxicology as well as in general apoptosis research. A strong point is that the authors emphasize the need to combine morphological assessment of the cell with other apoptotic parameters in order to fully characterize a cell as apoptotic."-Doody’s Health Science Book Review Journal

Apoptosis, or programmed cell death, is a widespread cellular process that regulates numerous important biological events ranging from the metamorphosis of the tadpole tail to the elimination of surplus brain cells in the formation of proper synaptic connections. In Apoptosis Methods in Pharmacology and Toxicology: Approaches to Measurement and Quantification, Dr. Myrtle A. Davis has assembled a panel of cutting-edge scientists to describe their best methods for detecting, illuminating, and quantifying apoptotic mechanisms in a way that is useful in toxicology and pharmacology research. These state-of-the-art techniques include flow cytometric, fluorometric, and laser scanning methods for quantifying and characterizing apoptosis, as well as protocols for the use of DNA microarray technology, high-throughput screens, and ELISA. Immunocytochemical methods for measuring biochemical and molecular endpoints in tissue sections will be highly useful for those carrying out studies in whole animal models as opposed to cell culture systems. Presented by authors well-versed in the technical problems and challenges in analyzing apoptosis, each method explicates its successful use, describes its limitations, and shows how it may be applied in large-scale screening operations. Concise and eminently practical, Apoptosis Methods in Pharmacology and Toxicology: Approaches to Measurement and Quantification offers pharmacologists, toxicologists, pathologists, and many other biomedical scientists today's gold standard reference source for methods that definitively identify and accurately quantify apoptosis.

Measurement Applied Measurement Engineering: How to Design Effective Mechanical Measurement Systems ISO/IEC Guide 98-3:2008, Uncertainty of measurement - Part 3: Guide to the expression of uncertainty in measurement (GUM:1995) Stealth Liposomes (Handbooks in Pharmacology and Toxicology) Biopharmaceutics of Ocular Drug Delivery (Handbooks in Pharmacology and Toxicology) Molecular Bases of Anesthesia (Handbooks in Pharmacology and Toxicology) Handbook of Pharmacokinetic/Pharmacodynamic Correlation (Handbooks in Pharmacology and Toxicology) Bioactivation of Foreign Compounds (Biochemical Pharmacology and Toxicology Series)