1. Record Nr. UNINA9910583388103321

Titolo	Clinical challenges in therapeutic drug monitoring : special populations, physiological conditions, and pharmacogenomics / / edited by William Clarke, PhD, MBA, Associate Professor of Pathology, Johns Hopkins University, Baltimore, MD, Amitava Dasgupta, Professor of Pathology and Laboratory Medicine, University of Texas Medical School at Houston, Houston, TX
Pubbl/distr/stampa	Amsterdam : , : Elsevier, , [2016] 2016
ISBN	0-12-802052-0 0-12-802025-3
Descrizione fisica	1 online resource (xvi, 360 pages) : illustrations (some color)
Collana	Gale eBooks
Disciplina	615.7
Soggetti	Drug monitoring
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 at the end of each chapters and index.
Nota di contenuto	Front Cover; Clinical Challenges in Therapeutic Drug Monitoring; Copyright Page; Contents; List of Contributors; Preface; 1 Overview of Therapeutic Drug Monitoring; 1.1 Introduction; 1.2 Principles of TDM; 1.3 Clinical Areas in Which TDM is Routine Practice; 1.3.1 Epilepsy; 1.3.2 Organ Transplantation; 1.3.3 Cardiology (Antiarrhythmic Drugs); 1.3.4 Psychiatry; 1.3.5 Infectious Disease; 1.3.6 Oncology; 1.4 Conclusions; References; 2 Immunoassays and Issues With Interference in Therapeutic Drug Monitoring; 2.1 Introduction; 2.2 Immunoassay Platforms Used in TDM 2.3 Interference of Bilirubin, Hemolysis, and Lipemia2.4 Interferences in Digoxin Immunoassays; 2.4.1 DLIS Interferences in Digoxin Immunoassays; 2.4.2 Effect of Digibind and DigiFab on Digoxin Immunoassays; 2.4.3 Potassium-Sparing Diuretics and Digoxin Immunoassays; 2.4.4 Herbal Supplements and Digoxin Immunoassays; 2.5 Issues of Interferences With Immunoassays for Immunosuppressants; 2.5.1 Metabolite Interferences in Cyclosporine Immunoassays; 2.5.2 Metabolite Interferences in Tacrolimus

Immunoassays; 2.5.3 Metabolite Interferences in Sirolimus and Everolimus Immunoassays
2.5.4 Metabolite Interferences in Mycophenolic Acid Immunoassays2.6 Interferences in Immunoassays for Anticonvulsants; 2.6.1 Interferences in Phenytoin Immunoassays; 2.6.2 Interferences in Carbamazepine Immunoassays; 2.6.3 Interferences in Phenobarbital and Valproic Acid Immunoassays; 2.6.4 Interferences in Immunoassays for Newer Anticonvulsants; 2.7 Interferences in Immunoassays for TCAs; 2.7.1 Interference of Phenothiazines and Their Metabolites in Immunoassays for TCAs; 2.7.2 Interference of Carbamazepine in Immunoassays for TCAs
2.7.3 Interference of Cyproheptadine and Quetiapine With Immunoassays for TCAs2.7.4 Interference of Miscellaneous Drugs With Immunoassays for TCAs; 2.8 Conclusions; References; 3 Application of Chromatography Combined With Mass Spectrometry in Therapeutic Drug Monitoring; 3.1 Introduction; 3.2 Liquid Chromatography; 3.3 Mass Spectrometry; 3.3.1 Ion Source; 3.3.2 Mass Analyzers; 3.3.2.1 Quadrupole Analyzers; 3.3.2.2 Ion Trap Analyzers; 3.3.2.3 TOF Analyzers; 3.3.3 Detectors; 3.4 Preanalytical Stage; 3.5 Application of LC-MS/MS Methods in TDM; 3.5.1 Immunosuppressants; 3.5.2 Anticonvulsants
3.5.3 Antidepressants3.5.4 Antifungal Drugs; 3.5.5 Others Drug Classes; 3.6 LC-MS/MS Limitations; 3.7 Conclusions; References; 4 Monitoring Free Drug Concentration: Clinical Usefulness and Analytical Challenges; 4.1 Introduction; 4.2 Drug-Protein Binding; 4.3 Drugs Requiring Free Drug Monitoring; 4.4 Conditions in Which Monitoring Free Anticonvulsants is Necessary; 4.4.1 Clinical Utility of Monitoring Free Phenytoin Concentrations; 4.4.2 Clinical Utility of Monitoring Free Valproic Acid Concentration; 4.4.3 Clinical Utility of Monitoring Free Carbamazepine Concentrations
4.5 Mechanisms of Elevated Free Anticonvulsant Levels in Various Pathophysiological Conditions

Sommario/riassunto

This guide surveys critical issues in therapeutic drug monitoring for non-toxicologists who want to gain greater insight into the unique requirements of special populations and learn how to avoid drug toxicity within a narrow therapeutic window.