Record Nr. UNINA9910141647203321 Metabolomics in practice [[electronic resource]]: successful strategies **Titolo** to generate and analyze metabolic data / / edited by Michael La<U+00cc>mmerhofer and Wolfram Weckwerth Weinheim an der Bergstrasse, Germany, : Wiley-VCH Verlag GmbH, Pubbl/distr/stampa **ISBN** 3-527-65586-7 1-299-31354-X 3-527-65589-1 3-527-65588-3 1 online resource (443 p.) Descrizione fisica Altri autori (Persone) La <U+00cc>mmerhoferMichael WeckwerthWolfram Disciplina 572.4 Soggetti Metabolism Metabolism - Research - Methodology Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Description based upon print version of record. Includes bibliographical references and index. Nota di bibliografia Nota di contenuto Metabolomics in Practice; Contents; List of Contributors; Preface; 1 The Sampling and Sample Preparation Problem in Microbial Metabolomics; 1.1 Introduction; 1.2 Microorganisms and Their Properties; 1.3 Sampling Methods: 1.3.1 The Need for Rapid Sampling: 1.3.2 Sampling Systems; 1.4 Quenching; 1.4.1 Quenching Procedures and Their Properties: 1.4.2 Validation of the Quenching Procedure and Minimization of Metabolite Leakage; 1.4.3 Quenching Procedure for Determination of Intracellular Metabolites in the Presence of Extracellular Abundance: 1.4.4 Quenching of Bacteria: 1.5 Metabolite Extraction 1.5.1 Extraction Methods and Their Properties 1.5.2 Validation of Extraction Methods for Yeast Metabolomics; 1.6 Application of 13C-Labeled Internal Standards; 1.7 Conclusions; References; 2 Tandem Mass Spectrometry Hyphenated with HPLC and UHPLC for Targeted Metabolomics; 2.1 Introduction; 2.2 LC-MS-Based Targeted Metabolomics; 2.3 Liquid Chromatography; 2.4 Mass Spectrometry;

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Sommario/riassunto

Unlike other handbooks in this emerging field, this guide focuses on the challenges and critical parameters in running a metabolomics study, including such often-neglected issues as sample preparation, choice of separation and detection method, recording and evaluating data as well as method validation. By systematically covering the entire workflow, from sample preparation to data processing, the insight and advice offered here helps to clear the hurdles in setting up and running a successful analysis, resulting in high-quality data from every experiment. Based on more than a decade of pra