

1. Record Nr.	UNINA9911018824503321
Titolo	Plant proteomics / / edited by Christine Finnie
Pubbl/distr/stampa	Oxford, UK ; ; Ames, Iowa, : Blackwell Pub., 2006
ISBN	9786610748822 9781280748820 1280748826 9780470764275 0470764279 9780470988879 0470988878 9781405173070 1405173076
Descrizione fisica	1 online resource (276 p.)
Collana	Annual plant reviews ; ; v. 28
Classificazione	42.42
Altri autori (Persone)	FinnieChristine
Disciplina	572/62
Soggetti	Plant proteins Plant proteomics
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	Plant Proteomics; Contents; Preface; Contributors; 1 Plant proteomics: challenges and resources; 1.1 Introduction; 1.2 Challenges; 1.2.1 Sample extraction; 1.2.1.1 Two-dimensional gel electrophoresis; 1.2.1.2 Direct MS analysis of samples; 1.2.2 Sample preparation and arraying; 1.2.2.1 Two-dimensional gel electrophoresis; 1.2.2.2 One-dimensional gel electrophoresis; 1.2.2.3 Blue-native gel electrophoresis; 1.2.2.4 Direct analysis of samples by MS; 1.2.3 Mass spectrometry (MALDI and ESI); 1.2.3.1 MALDI; 1.2.3.2 ESI; 1.2.4 Analysis depth; 1.2.5 Data analysis; 1.2.5.1 Peptide mass fingerprints 1.2.5.2 Peptide fragmentation data (MS/MS)1.2.5.3 Analysis options; 1.2.6 Quantitation; 1.2.6.1 Gel stains; 1.2.6.2 Chemical labelling of sample; 1.2.7 Modifications; 1.2.8 Data; 1.3 Resources; 1.3.1 Proteomic databases; 1.3.2 Online proteomic tools and resources; 1.4 Future; 2 Proteomic analysis of post-translational modifications by mass

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2.4.5 N-terminally modified proteins 2.5 Conclusions and perspectives; 3 Strategies for the investigation of protein-protein interactions in plants; 3.1 Summary; 3.2 Introduction; 3.3 Biochemical procedures to characterize protein-protein interactions; 3.3.1 Chromatographic purifications; 3.3.2 Sucrose gradient ultrafiltration; 3.3.3 Native gel electrophoresis; 3.3.4 Immunoprecipitations; 3.4 Genetic procedures to characterize protein-protein interactions; 3.4.1 Yeast two-hybrid system; 3.4.2 Yeast three-hybrid system; 3.4.3 Yeast one-hybrid system  
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#### Sommario/riassunto

The proteome comprises all protein species resulting from gene expression in a cell, organelle, tissue or organism. By definition, proteomics aims to identify and characterise the expression pattern, cellular location, activity, regulation, post-translational modifications, molecular interactions, three dimensional structures and functions of each protein in a biological system. In plant science, the number of proteome studies is rapidly expanding after the completion of the *Arabidopsis thaliana* genome sequence, and proteome analyses of other important or emerging model systems and crop

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