Record Nr.	UNINA9910132171903321
Titolo	Recent advances in polyphenol research . Volume 4 / / edited by Annalisa Romani, Vincenzo Lattanzio, Stephane Quideau ; contributors Nickolas A. Anderson [and twenty eight others]
Pubbl/distr/stampa	Chichester, England : , : Wiley Blackwell, , 2014 ©2014
ISBN	1-118-32963-5 1-118-32966-X 1-118-32965-1
Descrizione fisica	1 online resource (468 p.)
Collana	Recent Advances in Polyphenol Research
Disciplina	581.192
Soggetti	Botanical chemistry Polyphenols
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	Cover; Title Page; Copyright; Acknowledgments; Contents; Contributors; Preface; Chapter 1 Monolignol Biosynthesis and its Genetic Manipulation: The Good, the Bad, and the Ugly; 1.1 Introduction; 1.2 Function and distribution of lignin in plants; 1.3 Targets for modification of lignin biosynthesis; 1.3.1 Gene targets 1. Biosynthetic enzymes; 1.3.1.1 L-phenylalanine ammonia-lyase (PAL); 1.3.1.2 Cinnamate 4-hydroxylase (C4H); 1.3.1.3 4-coumarate: coenzyme-A ligase (4CL); 1.3.1.4 Enzymes of the coumaroyl shikimate shunt; 1.3.1.5 Caffeoyl-CoA 3-O-methyltransferase (CCoAOMT) 1.3.1.6 Ferulate 5-hydroxylase (F5H)1.3.1.7 Caffeic acid 3-O- methyltransferase (COMT); 1.3.1.8 Cinnamoyl-CoA reductase; 1.3.1.9 Cinnamyl alcohol dehydrogenase (CAD); 1.3.2 Gene targets 2. Transcription factors; 1.4 Impacts of lignin modification through targeting of the monolignol biosynthetic pathway; 1.4.1 L- phenylalanine ammonia-lyase (PAL); 1.4.2 Cinnamate 4-hydroxylase (C4H); 1.4.3 4-coumarate: coenzyme-A ligase (4CL); 1.4.4 Hydroxycinnamoyl-CoA: shikimate hydroxycinnamoyl transferase (HCT); 1.4.5 4-coumaroyl shikimate 3'-hydroxylase (C3'H)

1.

	 1.4.6 Caffeoyl CoA 3-O-methyltransferase (CCoAOMT)1.4.7 Ferulate 5-hydroxylase (F5H); 1.4.8 Caffeic acid O-methyltransferase (COMT); 1.4.9 Cinnamoyl-CoA reductase (CCR); 1.4.10 Cinnamyl alcohol dehydrogenase (CAD); 1.5 Impacts of lignin modification through targeting of TFs; 1.5.1 NAC master switches; 1.5.2 MYB repressors of monolignol biosynthesis; 1.5.3 WRKY repressors of lignification in pith; 1.6 Monolignol pathway modification and plant growth; 1.7 Conclusions: it isn't all that bad!; References Chapter 2 Perturbing Lignin Biosynthesis: Metabolic Changes in Response to Manipulation of the Phenylpropanoid Pathway2.1 Introduction; 2.1.1 Cell wall-bound phenylpropanoids; 2.1.2 Soluble phenylpropanoid; 2.2 Changes in metabolism associated with phenylpropanoid; 2.2.2 Cinnamate 4-hydroxylase (C4H); 2.2.3 4-coumarate: CoA ligase (4CL); 2.2.4 Hydroxycinnamoyl-coenzyme A: shikimate/quinate hydroxycinnamoyltransferase (HCT)/p-coumaroyl shikimate 3'-hydroxylase (F5H)2.2.7 Caffeic acid/5-hydroxyferulic acid O-methyltransferase (COMT)/caffeoyl CoA 3-O-methyltransferase (CCAOMT); 2.2.8 Cinnamyl alcohol dehydrogenases (CAD); 2.3 Atypical lignins; 2.4 Dwarfism; 2.5 Conclusions; References; Chapter 3 Function, Structure, and Evolution of Flavonoid Glycosyltransferases in Plants; 3.1 Introduction; 3.2 UDP-dependent glycosyltransferases; 3.2.1
Sommario/riassunto	Plant polyphenols are secondary metabolites that constitute one of the most common and widespread groups of natural products. They express a large and diverse panel of biological activities including beneficial effects on both plants and humans. Many polyphenols, from their structurally simplest representatives to their oligo/polymeric versions (also referred to as vegetable tannins) are notably known as phytoestrogens, plant pigments, potent antioxidants, and protein interacting agents. Sponsored by the scholarly society Groupe Polyphenols, this publication, which is the fourth volume in th