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Titolo	Carotenoids in Nature : Biosynthesis, Regulation and Function // edited by Claudia Stange
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer , , 2016
ISBN	3-319-39126-7
Edizione	[1st ed. 2016.]
Descrizione fisica	1 online resource (VIII, 457 p. 47 illus., 22 illus. in color.)
Collana	Subcellular Biochemistry, , 2542-8810 ; ; 79
Disciplina	612.01528
Soggetti	Proteins Food science Protein Biochemistry Food Science
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Carotenoid Distribution In Nature -- Biosynthesis Of Carotenoids In Plants: Colouring The Nature -- Structures And Analysis Of Carotenoid Molecules -- Carotenoids And Photosynthesis -- Regulation Of Carotenoid Biosynthesis In Photosynthetic Organs -- Regulation Of Carotenoid Biosynthesis During Fruit Development -- Carotenoid Biosynthesis In Daucus Carota -- Carotenoids In Microalgae -- Apocarotenoids: A New Carotenoid-Derived Pathway -- Plastids And Carotenoid Accumulation -- Evidence Of Epigenetic Mechanisms Affecting Carotenoids -- Manipulation Of Carotenoid Content In Plants To Improve Human Health -- Carotenoid Biosynthesis In Seeds -- Carotenoids As Source Of Antioxidants In The Diet -- Carotenoids In Adipose Tissue Biology And Obesity -- Absortion Of Carotenoids And Mechanisms Involved In Their Health-Related Properties.
Sommario/riassunto	This comprehensive, edited book explores carotenoids and their important functional roles in yeast, bacteria and plants and a profound exposition on the structures of carotenoid molecules, focusing in the first of three parts on the biosynthesis of carotenoids. The regulation of carotenoid biosynthesis in photosynthesis as well as in plant, fruits, storage roots and algae is central to the second part, and discoveries

about the function of carotenoids in human health feature in the third and final part. Many helpful illustrations, explanations, overviews and examples help to bring readers up to date on relevant themes including carotenogenic genes, carotenoids in fruits and metabolic engineering. The book explores where carotenoids are synthesized in nature, including in carrots and algae. Contributing expert authors examine enzyme functions and plant models, and analyze the structure of carotenoid molecules. The function of carotenoids in photosynthesis and in photosynthetic organs as well as during fruit ripening are then explored. A whole chapter is dedicated to the latest research on apocarotenoids and further chapters cover interesting and novel themes on plastid development and the epigenetic regulation that affects carotenoid synthesis in plants. The metabolic engineering of carotenoids that has been done in fruits, plants, and seeds is another area that readers can explore, along with evidences on the function of carotenoids in human nutrition, as antioxidants, as in the control of lipid metabolism and in the absorption of carotenoids. This is a highly informative and wide-ranging work which will update researchers in the field, as well as supporting students of plant physiology and biotechnology, as supplementary reading.
