

# Biosynthesis of carotenoids in plants: Enzymes and color

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© Springer International Publishing Switzerland 2016. Carotenoids are the most important biocolor isoprenoids responsible for yellow, orange and red colors found in nature. In plants, they are synthesized in plastids of photosynthetic and sink organs and are essential molecules for photosynthesis, photo-oxidative damage protection and phytohormone synthesis. Carotenoids also play important roles in human health and nutrition acting as vitamin A precursors and antioxidants. Biochemical and biophysical approaches in different plants models have provided significant advances in understanding the structural and functional roles of carotenoids in plants as well as the key points of regulation in their biosynthesis. To date, different plant models have been used to characterize the key genes and their regulation, which has increased the knowledge of the carotenoid metabolic pathway in plants. In this chapter a description of each step in the carotenoid synthesis pathway is presented and discus