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Autore	Jeannette Pfalz
Titolo	The Proteins of Plastid Nucleoids - Structure, Function and Regulation
Pubbl/distr/stampa	Frontiers Media SA, 2016
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Livello bibliografico	Monografia
Sommario/riassunto	<p>Plastids are plant cell-specific organelles of endosymbiotic origin that contain their own genome, the so-called plastome. Its proper expression is essential for faithful chloroplast biogenesis during seedling development and for the establishment of photosynthetic and other biosynthetic functions in the organelle. The structural organisation, replication and expression of this plastid genome, thus, has been studied for many years, but many essential steps are still not understood. Especially, the structural and functional involvement of various regulatory proteins in these processes is still a matter of research. Studies from the last two decades demonstrated that a plethora of proteins act as specific regulators during replication, transcription, post-transcription, translation and post-translation accommodating a proper inheritance and expression of the plastome. Their number exceeds by far the number of the genes encoded by the plastome suggesting that a strong evolutionary pressure is maintaining the plastome in its present stage. The plastome gene organisation in vascular plants was found to be highly conserved, while algae exhibit a certain flexibility in gene number and organisation. These regulatory proteins are, therefore, an important determinant for the high degree of conservation in plant plastomes. A deeper understanding of individual roles and functions of such proteins would improve largely our understanding of plastid biogenesis and function, a knowledge that will be essential in the development of more efficient and productive</p>

plants for agriculture. The latter represents a major socio-economic need of fast growing mankind that asks for increased supply of food, fibres and biofuels in the coming decades despite the threats exerted by global change and fast spreading urbanisation.

2. Record Nr.	UNINA9911023988903321
Autore	Godlewicz-Adamiec Joanna
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