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membrane proteome to changes in environmental conditions
Biogenesis of the thylakoid membrane and protein complexesFuture perspectives; 5: Protein Targeting, Transport and Translocation in Cyanobacteria; Subcellular organization of cyanobacterial cells - the sorting problem; How to establish protein heterogeneity in cyanobacteria?; Protein translocation and membrane integration in bacteria and chloroplasts - a brief overview; Protein translocation systems in cyanobacteria: a genetic perspective; Protein translocation systems in cyanobacteria: subcellular localization of translocases and integrases; Targeting signals
Interactions with soluble factors and targeting proteinsType I signal peptidases; Proteins involved in membrane formation; Transient and/or permanent membrane connections: thylakoid centre and PratA-defined membranes; Models of protein targeting and translocation in cyanobacteria; Epilogue: a heterogenic protein distribution in cyanobacterial subcompartments?; 6: Chromatic Acclimation: a Many-coloured Mechanism for Maximizing Photosynthetic Light Harvesting Efficiency; Introduction; Studies delineating the variation in the types of CA; Cyanobacterial phycobilisomes
Physiology and regulation of CA3Physiology and regulation of CA2; Physiology and regulation of CA4; Conclusions and future studies; 7: The Carboxysome: Function, Structure and Cellular Dynamics; Introduction; Carboxysome function; Structural and catalytic elements of the carboxysome; Cellular organization and dynamics of carboxysomes; Conclusions and future directions; 8: Glycogen, a Dynamic Cellular Sink and Reservoir for Carbon; Introduction; Structures of glycogen and starch-like reserves in cyanobacteria; Enzymology of glycogen metabolism in cyanobacteria
Regulation of cyanobacterial glycogen metabolism

Sommario/riassunto

The cyanobacteria are a fascinating group of bacteria that have adapted to colonize almost every environment on the planet. They are the only prokaryotes capable of oxygenic photosynthesis, responsible for up to 20-30% of Earth's photosynthetic productivity. They can attune their light-harvesting systems to changes in available light conditions, fix nitrogen, and have circadian rhythms. In addition, many cyanobacteria species exhibit gliding mobility and can differentiate into specialized cell types called heterocysts, and some are symbiotic. Thanks to their simple nutritional requirements, th