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## THE CO<sub>2</sub>-CONCENTRATING MECHANISM (CCM) IN CYANOBACTERIA

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Cyanobacteria possess inducible mechanisms that concentrate CO<sub>2</sub> at the carboxylation site, compensating for the relatively low affinity of Rubisco for its substrate, and allowing acclimation to a wide range of CO<sub>2</sub> concentrations. The organization of the carboxysomes and the presence of membrane mechanisms for inorganic carbon (C<sub>i</sub>) transport are central to the concentrating mechanism. The presence of multiple C<sub>i</sub> transporting systems in cyanobacteria has been indicated. Isolation and construction of various mutants defective in CCM and analysis of these mutants using molecular biology techniques enabled us to identify genes involved in structural organization, C<sub>i</sub> transport and the energization of the latter. I shall describe how the research on the CCM has been developed, focusing on the isolation/construction of mutants defective in CCM and functional analysis of genes impaired in these mutants.