

Type I Photosystems (PS) are characterized by a Fe-S cluster that serves as the terminal electron acceptor. They are present in 4 prokaryotic groups and all photosynthetic eukaryotes. This work summarizes the knowledge on the structure and function of PS I subunits. The simplest PS (homodimeric; only 2 subunits) is present in *Heliobacteria*. PS of green sulphur bacteria is also homodimeric and consists of 4 proteins including a membrane-bound cytochrome. The homodimeric PS of *Candidatus Chloracidobacterium thermophilum* is functional in aerobic conditions. The reaction center of the well-characterized PS I of *Cyanobacteria* has a heterodimeric structure; the same applies for the eukaryotic PS I. Cyanobacterial PS consists of 12 proteins and forms trimers under low light conditions. The trimer formation is completely suppressed in green plants. Their PS I (at least 15 proteins) is adapted to bind light-harvesting membrane proteins. The PS I of *Glaukophyta* and *Rhodophyta* is slightly different from green plants. Various hypotheses about the evolutionary origin of PS I exist. The last common ancestor of all PSs probably shared features of both Type I and Type II. The purpose and the origin of a PS I heterodimer is also discussed in this work. A further understanding of PS I evolutionary history would be helped by a detailed dissection of its structure in prokaryotic organisms and various groups of eukaryotic photosynthetic organisms.