

Table 4. Fraction of cell protein content of Cyanobacteria and microscopic eukaryotic algae occupied by the highly expressed photosynthetic proteins Rubisco and apoproteins of reaction centre and light-harvesting complexes, and for comparison the ribosomal proteins.

fractionation of cell protein	references	comments
Rubisco		
0.03–0.16	[86]	most data from algae expressing CCMs grown at high light. Some values assume a conversion factor for chlorophyll to cell protein
0.02–0.06	[87] [9,11]	values all based on direct estimates of Rubisco protein and total protein a saving of about a third of the protein requirement for a given rate of carbon dioxide fixation could be achieved by replacing the Rubisco Benson–Calvin cycle with one of the alternative autotrophic carbon dioxide fixation pathways
apoproteins of pigment–protein complexes		
0.04–0.4	[88–90]	highest values for algae growing at low light)
ribosomal proteins		
0.09–0.21	[90]	

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