P002 Isolation and characterisation of a PSI-FCP complex of the diatom *Phaeodactylum tricornutum*

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A photosystem I (PSI)–light harvesting complex (LHC) of the diatom *Phaeodactylum tricornutum* was isolated (article published in BBA Bioenergetics, Vol., 1767, Issue 12, 2007). Since the LHCs of diatoms bind the carotenoid fucoxanthin as pigment they are called FCPs (Fucoxanthin Chlorophyll Proteins). An active involvement of the accessory pigments chlorophyll c and fucoxanthin in light energy transfer to the PSI core were proven by fluorescence excitation and emission spectra. Western Blot analysis displayed a different composition of FCP polypeptides bound by PSI compared to the major FCP fraction. Therefore we suppose them to be PSI specific.
Electron microscopy studies, Blue Native-PAGE, gel filtration experiments, and oxidised-minus-reduced difference spectra revealed a monomeric PSI-FCP complex with a chlorophyll/P700 ratio of approximately 200:1, comparable to PSI–LHCI complexes of e.g. green algae.