

**33 KDA PROTEIN OF PHOTOSYSTEM II IS A LOW-AFFINITY
CALCIUM- AND LANTHANIDES-BINDING PROTEIN**

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We have shown that the isolated 33 kDa protein of photosystem II contains one calcium and one lanthanides low-affinity binding site with the binding constants, K_D in the order of 10^{-5} M. Binding of calcium or lanthanides to this site induces conformational changes of the protein that manifest in fluorescence emission spectra of the protein, circular dichroism spectra and calorimetric thermograms where the phase transitions are shifted to lower temperatures. The role of calcium binding to the 33 kDa protein in attaining its native structure and significance of this interaction for oxygen evolution process is discussed.