The Effect of Cd on Chlorophyll and Light-Harvesting Complex II Biosynthesis in Greening Plants

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Z. Naturforsch. **54c,** 740–745 (1999); received November 12, 1998/April 10, 1999

Cadmium, Chlorophyll, Light-Harvesting Complex II, Thylakoid-Bound Protease, Transcription

The effect of Cd on chlorophyll (Chl) as well as on light-harvesting complex II (LHCII) accumulation, has been examined during the early stages of development in etiolated *Phaseolus vulgaris* leaves exposed to intermittent light-dark cycles. We found that at the Cd concentrations studied, both Chl and LHCII accumulation were drastically reduced, although the LDS-solubilized total leaf protein level remained unaffected. However, on the basis of total chlorophyll present, the amount of stabilized LHCII was similar in both Cd-treated and non-treated samples. Additionally, the thylakoid-bound protease known to degrade LHCII, was found to be inhibited by Cd treatment both *in vivo* and *in vitro*. Finally, Northern hybridization analysis indicated that Cd affects LHCII accumulation by reducing drastically the steady-state level of *Lhcb* transcripts.