In higher plants, the CAB proteins are components of the antenna complexes associated with PSI and PSII in the chloroplast thylakoid membranes. They are encoded by a nuclear multigene family. Members of this family have been extensively characterized and categorized in 10 recognizable types by deduced amino acid sequence comparison (Jansson et al., 1992). Six different protein types are associated with the antenna of PSI, divided into the major LHClI and the minor complexes CP29, CP26, and CP24 (Jansson et al., 1992). LHClI is composed of two major polypeptides (LHClI type I and type II) and one minor polypeptide (LHClI type III) (Jansson et al., 1992). LHClI type I and type II proteins are the most closely related proteins of the CAB family and share on average 85% homology (Jansson et al., 1992). In maize *Zea mays*, all the CAB genes that have been isolated code for LHClI type I polypeptides (Sullivan et al., 1989; Viret et al., 1990; Bansal et al., 1992; Becker et al., 1992). Here, we report the isolation and expression of a maize cDNA encoding an LHClI type II polypeptide.

A cDNA library of maize seedlings in Xgt11 was screened with polyclonal antibodies against *Chlamydomonas* CAB polypeptides (Houlné and Schantz, 1987). This led to the isolation, subcloning in Bluescript KS+ plasmid (Stratagene, La Jolla, CA), and complete sequencing of a 1126-bp EcoRI fragment that contains a 780-bp coding region for a maize CAB polypeptide (Table I). Hybridization studies and sequence comparisons do not identify this gene with one of the eight maize cDNAs characterized previously (Sheen and Bogorad, 1986; Sullivan et al., 1989; Viret et al., 1990; Bansal et al., 1992; Becker et al., 1992). Amino acid sequence comparison of this new clone with tomato LHClI CAB polypeptides of three different types and one maize LHClI type I CAB polypeptide reveals that it encodes an LHClI type II CAB. Its putative mature polypeptide shares 92, 82, and 75%, respectively, sequence homology with the tomato LHClI type II (Pichersky et al., 1987), type I (Pichersky et al., 1985), and type III (Schwartz et al., 1991) proteins, and 81% with the maize LHClI type I protein (Viret et al., 1990). Its putative transit peptide shares less than 45% homology with any other putative transit peptide. We designate this new gene Lhcb2*Zm1, according to the proposed nomenclature of Jansson et al. (1992). Densitometric analysis of northern blots indicates that the Lhcb2*Zm1 mRNA pool increases at least 10-fold in leaves of 7-d-old seedlings after a 24-h greening process.

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Abbreviations: CAB, chlorophyll a/b binding; LHClI, light-harvesting complex.
LITERATURE CITED

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