13 Cloning and Characterization of a *PnCOP1* (*Pharbitis nil COP1*) Gene from Japanes Morning Glory, a Short Day Plant

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COP1 (**Co**nstitutive **P**hotomorphogenesis **1**) is a repressor of photomorphogenesis in *Arabidopsis* plants, and found in various organisms incldung animals. We have cloned a full-length of *PnCOP1* cDNA, about 2.3 kbp in lenght, from *Pharbitis nil* Choisy cv. Violet, a short day plant. The PnCOP1 contains three distinct domains, an N-terminal Zn^{2+}-binding RIPG-finger domain, a coiled-coil structre, and WD40 repeats at the C-terminal, implying that the protein plays a role in the protein-protein interaction. Nucleotiede sequences of *PnCOP1* clone were quite similar to tomato *COP1* and the zinc-finger motifs were very conserved among plant COP1s. The expression level of the *PnCOP1* gene was inhibited by light, while the expression was induced by dark. During the floral inductive 16 hour-dark period for *Pharbitis nil,* the expression was increased to reach its maximum at 12th hour of the dark period. The levels of *PnCOP1* mRNA were dramatically reduced upon the light illumination. These results suggest that PnCOP1 may play an important function in the floral induction of *Pharbitis nil.*

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