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Molecular Cloning and Characterization of Cuticle Protein Genes from the Mulberry Longicorn Beetle, *Apriona germari*

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We have cloned three major larval cuticle protein genes (LCPs) designated as AgLCP9.2, AgLCP12.3 and AgLCP12.6 in the larval stage of the mulberry longicorn beetle, *Apriona germari*. The cDNA clones for these AgLCPs were sequenced and characterized. Sequence analysis of AgLCP9.2, AgLCP12.3 and AgLCP12.6 revealed an open reading frame of 103, 132 and 136 amino acid residues, respectively. The deduced protein sequences of AgLCP9.2, AgLCP12.3 and AgLCP12.6 are identical to *Bombyx mori* LCP18 (60%), *B. mori* LCP17 (32%) and *B. mori* LCP17 (46%), respectively. The deduce protein sequence alignment analysis of AgLCPs identified the conserved residues within the consensus sequence among the cuticle proteins. Phylogenetic analysis was performed with known insect larval cuticle protein genes. Northern blot analysis indicated that AgLCPs showed larval epidermis-specific expression pattern at the transcriptional level.