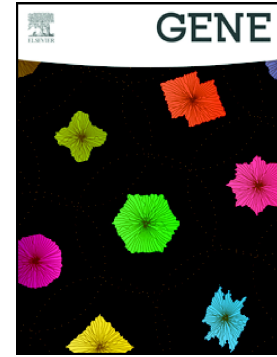


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Expression profiles of cuticular protein genes in wing tissues during pupal to adult stages and the deduced adult cuticular structure of *Bombyx mori*

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Expression profiles of cuticular protein genes in wing tissues during pupal to adult stages and the deduced adult cuticular structure of *Bombyx mori*

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Abstract

We aimed to clarify the regulation of cuticular protein (CP) gene expression and the resulting insect cuticular layers by comparing the expression pattern of CP genes and related ecdysone-responsive transcription factor (ERTF) genes, the coding amino acid sequences of CP genes, and histological observation. The expression of CP and ERTF genes during pupal and adult stages was examined via qPCR. The number of CP genes expressed during pupal and adult stages decreased as compared to that during prepupal to pupation stages, particularly in CPRs. The peaks of transcripts were observed at P5, P6, P9, A0, and A1. The order of the ERTF and CP genes expression resembled that at prepupal and pupation stages, suggesting the relatedness of ERTFs with the same CP genes at both stages. Moreover, the order of expression of CP genes resembled that in prepupal to pupation stages, by which we presumed the spaces of CPs in the epicuticle, outer-exocuticle, inner-exocuticle, endocuticle layer.

Key words: *Bombyx mori*, ecdysone, cuticular protein, BHR4, β FTZ-F1, E74A

1. Introduction

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