A9

Cloning and Expression of a Novel Gene Encoding a New Peptidoglycan Recognition Protein from Silkworm, *Bombyx mori*

Sang Hyun Kim[1)], Jin Won Kim[1)], Heui Sam Lee[1)], Jun Yang[2)], Kang Sun Ryu[1)] and Minoru Yamakawa[2)]

[1)]Department of Sericulture & Entomology, NIAST, RDA, Suwon 441-100, Korea, [2)]National Institute of Animal Science, Ohwashi 1-2, Tsukuba, 305-8634, Japan

We differentially screened a novel gene encoding a new peptidoglycan recognition protein(PGRP) from the immunized *Bombyx mori*. The gene showed a similar structure to that of PGRP-family, encoding 195 amino acids including a putative leader peptide and mature peptide. The deduced peptide had conserved amino acid residues which have been known to play and important role in the PGRP activities. The genomic sequence of PGRP cDNA revealed that the transcription unit of PGRP gene wes about 4.9kb, and PGRP gene was revealed to contain four exons(exon I , nucleotides 1-87 ; exon II, 88-292 ; exon III, 293-411 ; exon IV, 412-756). Recombinant PGRP, expressed under the control of the baculovirus polyhedrin promoter, was shown to possess peptidoglycan affinity. From our results and the sequence homology, we conclude that PGRP is a ubiquitous protein involved in innate immunity, conserved from insects to humans.