Peptidoglycan recognition proteins (PGRPs) are immunity-related proteins that recognize peptidoglycan associated with pathogens like bacteria and can result in intercellular signaling leading to melanization, phagocytosis, or a cascade of antimicrobial peptides that can cause pathogen destruction. Different tissues within the mosquito may produce PGRPs at various times during development, potentially affecting the strength and functioning of the immune system. PGRP transcript levels in the mosquito Aedes aegypti were measured and comparisons made for AePGRP-LA, AePGRP-LB, AePGRP-LC, AePGRP-LD, and AePGRP-LE in various developmental stages of the mosquito as well as in different tissues. Specifically, PGRP transcript expression was compared among the four larval instars, both early and late stage pupae, and Day 0, 2, 4, and 6 of adult female mosquitoes and among adult mosquito tissues including: brain, salivary glands, ovaries, malpighian tubules, cuticle, fat body, hemocytes, muscle, and midgut. Developmental profiling revealed that AePGRP-LA and AePGRP-LC are present in all stages of the mosquito, while increased amounts of AePGRP-LB and AePGRP-LD are present in the later stages of development. AePGRP-LA is expressed in the fat body and muscle, while AePGRP-LB has the greatest expression in hemocytes, followed by midgut and fat body. AePGRP-LC expression is highest among hemocytes and AePGRP-LD is upregulated in the fat body, malpighian tubules and ovary. AePGRP-LE displayed variable and inconsistent expression throughout the developmental stages and in various tissues. By characterizing transcription expression patterns of different PGRPs in Ae. aegypti, we can establish their presence throughout the life cycle of the mosquito and develop a more complete picture of PGRPs and their role in the innate immune system of the mosquito.