

Characterization of Novel cDNA Clone Related to Testis Development in *Bombyx mori*

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The present study is designed to understand the molecular mechanisms of testicular development and differentiation in insects. We report here the isolation and characterization of a novel gene identified on the basis of its stage-specific expression in the silkworm testis. Using a differential display method, we isolated a cDNA clone, tentatively called the clone 44, from the testis of 5th instar larvae. The expression pattern of the clone 44 was specific for the 5th-instar testis and up-regulated in the mutant strains with extraordinary recombination ratios. The clone 44 was 1,023 base pairs long and encoded a putative protein of 341 amino acid residues. The amino acid sequence of the clone 44 was conserved in a number of organisms but their functions have not been reported. Double-stranded RNA (dsRNAs) constructed from the clone 44 was injected into silkworm larvae to investigate the influence of the RNA silencing to testicular development. The injection of dsRNA resulted in enlargement of pupae and a reduction of the testes in size. These observations strongly suggested that this clone has a role in the maturation of silkworm testis.