

A difference in the genotype found in the longevity inbred strains of silkworm which correlates with genetically-determined, long or short lifespan

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Because the duration of adult lifespan significantly differs among various silkworm strains, it has been suggested that the long or short adult lifespan may be genetically controlled. The mean adult life span of silkworm is approximately 8 days and 5 days for females and males, respectively. However, the adult lifespan of the *J037* strain is remarkably long in both sexes; about 16 days for females and 15 days for males. On the contrary, the *Daizo* strain adult has a very short lifetime; around 3-4 days in both sexes. In this study, to investigate the expressed gene transcript difference between the *J037* longevity inbred strain and the *Daizo* short lifetime inbred strain, dot hybridization were performed. We constructed the full-length cDNA library from the adult male of the *J037* strain. A total of 3,000 clones were randomly selected, and hybridized by each cDNA probe (*J037* and *Daizo*). As a result, 152 individual cDNA clones were identified as expressed differently. Among those clones, a total of 71% had significant matches to genes in the database (BLASTx and BLASTn), whereas 29% of the clones had no matches in the database.