

3-4-6. Cloning of Fibroin Gene from Oak Silkworm, *Antheraea yamamai* and Its Complete Genomic Sequence

Jae-Sam Hwang, Jin-Sung Lee¹, Tae-Won Goo, Eun-Young Yun, Kwang-Sik
Lee², Yong-Sung Kim³, Byung-Rae Jin²,
Sang-Mong Lee⁴, Keun-Young Kim and Seok-Woo Kang

Dept. of Sericulture & Entomology, NIAST, RDA, Suwon, Korea,

¹CoreBio Research Institute of Bioscience & Biotechnology, CoreBio System Co.
Ltd, Seoul, Korea,

²College of Natural Resources & Life Science, Dong-A Univ., Pusan, Korea

³Genome Center, KRIBB., Taejon, Korea,

⁴Dept. of Sericultural & Entomological Biology, Miryang Univ. Miryang, Korea

The nucleotide sequences containing an entire genomic region and 5 upstream region of *Antheraea yamamai* fibroin gene have been determined by primer walking and serial-deleted gene cloning. The gene consists of an initial exon encoding 14 amino acids, an intron (150 bp), and a long second exon coding for 2,641 amino acids. The fibroin coding sequence shows a specialized organization with a highly repetitive region flanked by non repetitive 5 and 3 ends. Northern blot hybridization confirmed that fibroin gene is actively expressed in the posterior silk gland of the final instar larvae of *Antheraea yamamai*.