

Identification of the *Bombyx mori* gene *wds* Codes for a WD-Repeat Protein with Seven Repeats

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The WD-repeat proteins make up a large family of proteins confined to eukaryotes, in which a conserved unit, the so-called WD repeat (also known as the β -transduction, GH-WD or WD-40 repeat), recurs four to eight times in each polypeptide. The name is derived from the fact that the conserved repeating unit usually ends with the amino acids tryptophane (W) and aspartic acid (D). Sequence analysis of *B. mori wds* has 1431 nucleotides full-length cDNA revealed it to contain an ORF of 346 amino acids. When the WDS protein is aligned with the WD consensus sequence seven repeats can be recognized. The WDS protein has been highly conserved during the evolution of higher eukaryotes. This gene transcripts were detected in early embryogenesis. An early three time points (unfertilized eggs, fertilized eggs (0-2hrs after oviposition) and blastoderm formation stage (8-10hrs after oviposition)) have strong expression comparative with the later three time points (germband formation stage (24hrs after oviposition, HCl treatment for artificial hatching), spatula stage (48hrs after oviposition) and appendages formation stage (72hrs after oviposition)). Transcript products gradually declined after germband formation stage. *wds* RNA could be detected in many tissues of larva, e. g. in fat body, mid-gut, gonads, silk glands and hemocyte. The levels of *wds* transcripts in germ cells (testis and ovary) are strong comparison with other tissues. *In situ* hybridization to gonads of final instar larva was performed to determine the sites of *wds* expression. In testis, *wds* transcription was detected in the whole of cells, spermatogonium, spermatocyte and sperm packet, and membranes.