



Molecular cloning and expression analysis of two sex-lethal homolog genes during development in the oriental river prawn, *Macrobrachium nipponense*

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ABSTRACT. In this study, two *Sxl* gene homologs, designated as *Mnsxl1* and *Mnsxl2*, were cloned and characterized from the freshwater prawn *Macrobrachium nipponense* by rapid amplification of cDNA ends. The deduced amino acid sequences of *Mnsxl1* and *Mnsxl2* showed high sequence homology to the insect *Sxl* and contained conserved domains in two RNA-binding motifs. Real-time quantitative reverse transcription-polymerase chain reaction (RT-QPCR) showed that the *Mnsxl1* and *Mnsxl2* genes were expressed in all investigated tissues, with the highest level of expression in the intestine and liver. RT-QPCR also revealed that *Mnsxl1* and *Mnsxl2* mRNAs expressions were both significantly increased at 5 and 20 days post-larvae after metamorphosis. Thus, the results of the present study imply that *Mnsxl1* and *Mnsxl2* play

complex and important roles in the sex differentiation of *M. nipponense*.

Key words: *Macrobrachium nipponense*; Sex-lethal; Sex determination; Expression pattern; Crustacean