

Molecular Cloning and Expression of Two Estrogen Receptor Subtypes and *DMRT* Gene in a Protogynous Wrasse, *Pseudolabrus japonicus*

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Bambooleaf wrasse which habitats in the Korean and Japanese sea is hermaphrodite fish and it is one of the representative sex reversing fish. Three main types of hermaphroditisms are exist: protogyny, protandry, simultaneous hermaphroditism. Bambooleaf wrasse is protogynous fish, which changes it's sex during reproductive season. Estrogen is the major female hormone, and it affects in many target genes which are associated with reproduction. *DMRT* and *DMO* genes are reported to be related to sex-specific expression, male and female respectively. In order to provide the molecular background for understanding hormonal regulation in gonadal differentiation and sex reversal in a Bambooleaf wrasse, *P. japonicus*, we isolated cDNAs of two estrogen receptor subtypes (ER α and ER β), and *DMRT* (Doublesex/mab-3 Related Transcription factor) gene in Bambooleaf wrasse. Also, we found the tissue-specific and sex-specific expression of each genes. First, we amplified the partial sequence of each genes in Bambooleaf wrasse. Then, we carried out cloning and sequencing by using Gene Specific Primers based on the partial sequence and acquired full cDNA sequences by rapid amplification of cDNA ends (RACE). Also, we are surveying the tissue-specific expression pattern of each genes during sex-reversal by RT-PCR and Northern hybridization in various tissues collected from Bambooleaf wrasse.