

Molecular Cloning and Expression of Two Estrogen Receptor Subtypes and DM-Related Genes in a Protogynous Wrasse, *Pseudolabrus japonicus*

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Bambooleaf wrasse which habitats in the Korean and Japanese sea is hermaphroditism fish and it is one of 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 the cDNAs of two estrogen receptor subtypes (ER α and ER β), and DMRT (Doublesex/mab3 Related Transcription factor), DMO genes in Bambooleaf wrasse. Also, we analyzed the tissue-specific and sex-specific expression of each genes. At First, we referred to the sequences of each genes in many other teleosts, and amplified the partial sequence of each genes in Bambooleaf wrasse. Then, we carried out cloning and sequencing. The sequencing of each genes are acquired by RACE and cDNA library screening. We designed Gene Specific Primers based on the partial sequence and have tried to determining the full cDNA sequences using RACE. Also, we are searching the tissue-specific expression pattern of each genes during sex-reversal by RT-PCR and Northern hybridization in various tissues collected from Bambooleaf wrasse.