OMICS Group Conferences
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International Conference on
Oceanography & Natural Disasters
August 21-23, 2013 Holiday Inn Orlando International Airport, Orlando, FL, USA

Sexually dimorphic expression of a germ line gene, dead end, during gonadal development in turbot (*Scophthalmus maximus*)

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Dead end (dnd) is a vertebrate-specific component of germ plasm that is crucial for primordial germ cell migration and survival in zebrafish. In this study, we identified a *dnd* homologue (*Smdnd*) in turbot (*Scophthalmus maximus*) and investigated its expression pattern during embryogenesis and gonadal development. It showed that the predicted amino acid sequence of isolated cDNA shared high identity to Dnd homologues and was classified to its teleost counterparts. RT-PCR and *in situ* hybridization demonstrated that *Smdnd* transcripts could be detected in germ cells, including primordial germ cells (PGCs), adult male and female germ cells. Furthermore, the female exhibited higher expression of *Smdnd* than male before sex maturation. This difference reduced gradually due to the up-regulation of *Smdnd* in male gonad after the spermatogonia proliferated and meiosis proceeded. The results not only suggest the conserved role of *dnd* in germ cell development in turbot, but also provide the initial evidence for its possible involvement in sex differentiation and gametogenesis in teleosts.

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