

Cloning and Analysis of Nile Tilapia Toll-like receptors Type-3 mRNA

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Abstract : Toll-like receptors (TLRs) are the best understood of the innate immune receptors that detect infections in vertebrates. However, the fish TLRs also exhibit very distinct features and a large diversity, which is likely derived from their diverse evolutionary history and the distinct environments that they occupy. Little is known about the fish immune system structure. Our work was aimed to identify and clone the Nile tilapiaTLR-3 as a model of freshwater fish species; we cloned the full-length cDNA sequence of Nile tilapia (*Oreochromis niloticus*) TLR-3 and according to our knowledge, it is the first report illustrating tilapia TLR-3. The complete cDNA sequence of Nile tilapia TLR-3 was 2736 pair base and it encodes a polypeptide of 912 amino acids. Analysis of the deduced amino acid sequence indicated that Nile tilapia TLR-3 has typical structural features and main components of proteins belonging to the TLR family. Our results illustrate a complete and functional Nile tilapia TLR-3 and it is considered an ortholog of the other vertebrate's receptor.

Keywords : Nile tilapia, TLR-3, cloning, gene expression

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