Molecular cloning and expression analysis of MyD88 in spiny head croaker, *Collichthys lucidus*

C. Sang¹, Y. Lin², K. Jiang³, F. Zhang³, C. Ma³, L. Ma³ and W. Song³

¹School of Ocean, Yantai University, Yantai, Shandong, China
²College of Fisheries and Life Science, Shanghai Ocean University, Shanghai, China
³East China Sea Fisheries Research Institute, Chinese Academy of Fishery Sciences, Shanghai, China

Corresponding author: W. Song
E-mail: songw@ecsf.ac.cn

Received August 13, 2014
Accepted December 8, 2014
Published May 4, 2015
DOI http://dx.doi.org/10.4238/2015.May.4.26

**ABSTRACT.** Myeloid differentiation factor 88 (MyD88) is an important adaptor protein involved in toll-like receptor signaling pathways. In this study, a cDNA library from *Collichthys lucidus* was constructed using the SMART technique. A complete cDNA sequence showing high identity with the conserved sequence of the MyD88 gene was cloned from the cDNA library using expressed sequence tag analysis and rapid amplification of cDNA ends, and then subjected to further investigation. The full-length cDNA of MyD88 from *C. lucidus* (*ClMyD88*) was 1580 bp, including a 5'-terminal untranslated region (UTR) of 102 bp, a 3'-terminal UTR of 614 bp, and an open reading frame of 864 bp. The gene encoded a polypeptide of 287 amino acids, constituting a predicted molecular weight of 33.03 kDa and a theoretical isoelectric point of 5.06. It contained a typical death domain at the N-terminal and a conservative toll/IL-1 receptor domain structure at the C-terminal. Quantitative real-time reverse transcription PCR analysis
revealed broad expression of ClMyD88, with the highest expression in the gill and the weakest expression in the brain and muscle. These results indicated that MyD88 has an important role in the innate immune system in *C. lucidus*.

**Key words:** *Collichthys lucidus*; MyD88; Quantitative real-time PCR