Characterization, molecular cloning, and expression analysis of Ecsit in the spinyhead croaker, *Collichthys lucidus*

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ABSTRACT. Evolutionarily conserved signaling intermediate in Toll pathways (Ecsit) is reported to play an essential role in innate immunity, embryogenesis, and assembly or stability of the mitochondrial complex I. In this study, the full-length cDNA of Ecsit was cloned from the spinyhead croaker *Collichthys lucidus* based on the expressed sequence tags from our cDNA library constructed using the SMART technique. The cDNA was 1669 bp long, including a 5'-terminal untranslated region (UTR) of 121 bp, a 3'-terminal UTR of 183 bp, and an open reading frame of 1365 bp encoding a 454-amino acid polypeptide. The estimated molecular weight of *C. lucidus* Ecsit (ClEcsit) was 52.50 kDa with an isoelectric point of 6.14, and contained a typical Ecsit domain that is conserved in other Ecsits. Multiple alignment of ClEcsit with other selected Ecsits suggested that some amino acid residues were highly conserved. Phylogenetic analysis indicated that ClEcsit was more similar to its identities in Sciaenidae and grouped with Ecsits from other Perciformes. Quantitative real-time reverse transcription PCR analysis revealed broad expression.
of ClEcsit and the transcript was strongly expressed in the gill and weakly expressed in other tissues.

**Key words:** Colichthys lucidus; Ecsit; Quantitative real-time PCR; Tissue expression