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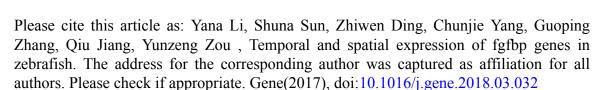
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Temporal and Spatial Expression of fgfbp Genes in Zebrafish

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ABSTRACT

Fibroblast growth factor binding proteins (FGFBPs) are a class of secreted proteoglycans that function as an extracellular chaperone for locally stored FGFs and enhance FGF signaling. To date, all three human FGFBP genes have been identified and one orthologue fqfbp1a has been studied in zebrafish embryos. Here, we described the cloning and expression patterns of four novel FGFBP orthologues in zebrafish, fgfbp1b, fgfbp2a, fgfbp2b, and fgfbp3. Quantitative PCR and whole-mount in situ hybridization results showed that all transcripts except fgfbp2a are initially expressed in a maternal manner. fgfbp1b, fgfbp2b and fgfbp2a transcripts are expressed broadly in the head at 24 hours post-fertilization (hpf), and then become restricted to the pharyngeal tissue, pectoral fins, and liver, respectively. fgfbp3 is abundantly expressed in the central nervous system (CNS) throughout embryonic and larval development. In adults, fgfbp family manifest the tissue specific patterns of expression with fqfbp3 robustly expressed in muscle and heart. Our work offers a starting point to uncover roles of *FGFBP* family genes and the possible mechanisms of FGF-dependent and -independent actions of FGFBP in vertebrates.

Key words: FGFBP; FGF signaling; Pharyngeal tissue; Pectoral fin; Liver; Central nervous system; Zebrafish.

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