



# Cloning, characterization, expression, and feeding response of thyrotropin receptor in largemouth bass (*Micropterus salmoides*)

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**ABSTRACT.** Thyrotropin receptor (TSHR) is a G-protein-coupled receptor that regulates the synthesis, storage, and secretion of thyroid hormones in the thyroid tissue. The aims of the present study were to characterize the full-length TSHR cDNA in largemouth bass (*Micropterus salmoides*), and to determine the TSHR gene transcription levels in different tissues. In addition, the response of TSHR transcription levels to daily feeding in thyroid tissue was investigated. The results showed that the full-length cDNA sequence was 2743 bp with an open reading frame of 2340 bp encoding a 779-amino acid peptide. BLAST analysis indicated that the amino acid sequence displayed 58.4-90.2% identity and 5.6-125.8 divergence, compared with other known fish species.

The most abundant TSHR transcription levels were found in the spleen, head kidney, and kidney. Feeding did not affect the transcription level of TSHR in thyroid tissue over the course of the day. Thus, the current study suggests that there was no relationship between daily nutritional status and TSHR transcription level in the thyroid tissue of largemouth bass. The spleen, head kidney, and kidney exhibited the most abundant TSHR transcription levels.

**Key words:** *Micropterus salmoides*; Thyrotropin receptor; Feeding; Thyroid hormones; Gene transcription