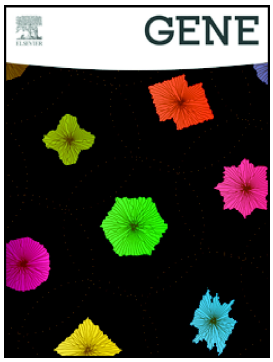

Effects of fasting and re-feeding on mstn and mstnb genes expressions in Cranoglanis bouderius

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Effects of fasting and re-feeding on *mstn* and *mstnb* genes expressions in *Cranoglanis bouderius*

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Abstract: The myostatin (*mstn*) and myostatinb (*mstnb*) gene of *Cranoglanis bouderius* were cloned and sequenced and their expressions under nutritional restriction were characterized. The full cDNA sequences of *mstn* and *mstnb* were 1,878bp and 1,928bp, containing an open reading frame of 1,170 bp and 1,119bp, which encoded 390 and 373 amino acids, respectively. The deduced *mstn* and *mstnb* sequence structures were similar to other members of TGF-β superfamily, including the TGF beta pro-peptide, TGF beta domain, proteolytic processing site and nine conserved cysteines in the C-terminal. In addition, four *mstn* gene duplications were found in *Cranoglanis bouderius*. Sequence alignment and phylogenetic tree analyses indicated that the *mstn* gene and *mstnb* gene had a close relationship with siluriformes fish, and the *mstn* and *mstnb* genes were roughly classified into two groups. RT-PCR analysis revealed that the *mstn* and *mstnb* were expressed in a variety of tissues in *Cranoglanis bouderius* although the *mstn* was highly expressed in skeletal muscle and the *mstnb* was mainly expressed in brain. We speculate that the *mstn* gene but not *mstnb* is likely to play a key role in managing muscle growth. A fasting- re- feeding experiment was used to