



*Short Communication*

# Genetic polymorphisms of LPL and HL and their association with the performance of Chinese sturgeons fed a formulated diet

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**ABSTRACT.** It is very important to investigate the reasons for the large individual differences in individual performance of food acceptance when using formulated diets for the successful culture of larvae and juveniles of the Chinese sturgeon *Acipenser sinensis*. Genetic differences of the mitochondrial control region were investigated by direct sequencing in two groups of Chinese sturgeon, which were apt to accept or refuse formulated diets. Among 968-bp sequences, 111 variable sites were identified. One variable site showed close association with the individual performance of specimens fed with formulated diets. The commercial diet for Chinese sturgeons usually contains high levels of lipids. Lipoprotein lipase (LPL) and hepatic lipase (HL) are two members of the lipase gene family, which are essential for the utilization of dietary lipid. Single nucleotide polymorphisms (SNPs) in intron 7 were detected in the two experimental groups of Chinese

sturgeons. We were able to demonstrate that one SNP in the LPL gene and one SNP in the HL gene showed close association with the performance of sturgeons on the formulated diet.

**Key words:** Chinese sturgeon *Acipenser sinensis*; Lipoprotein lipase; Single nucleotide polymorphism; Mitochondrial control region; Hepatic lipase; Performance on formulated diet