

## **Fasted and Postprandial Response of Serum Physiological Response, Hepatic Antioxidant Abilities and Hsp70 Expression in *M. amblycephala* Fed Different Dietary Carbohydrate**

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**Abstract :** The effect of dietary carbohydrate (CHO) level on serum physiological response, hepatic antioxidant abilities and heat shock protein 70 (HSP70) expression of Wuchang bream (*Megalobrama amblycephala*) was studied. Two isonitrogenous (28.56% crude protein) and isolipidic (5.28% crude lipid) diets were formulated to contain 30% or 53% wheat starch. Diets were fed for 90 days to fish in triplicate tanks (28 fish per tank). At the end of feeding trial, significantly higher serum triglyceride level, insulin level, cortisol level, malondialdehyde (MDA) content were observed in fish fed the 53% CHO diet, while significantly lower serum total protein content, alkaline phosphatase (AKP) activity, superoxide dismutase (SOD) activity and total antioxidative capacity (T-AOC) were found in fish fed the 53% CHO diet compared with those fed the 30% diet. The relative level of hepatic heat shock protein 70 mRNA was significantly higher in the 53% CHO group than that in the 30% CHO at 6, 12, and 48 h after feeding. The results of this study indicated that ingestion of 53% dietary CHO impacted the nonspecific immune ability and caused metabolic stress of *Megalobrama amblycephala*.

**Keywords :** *Megalobrama amblycephala*, carbohydrate, fasted and postprandial response, immunity, Hsp70

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