



Human chorionic gonadotropin promotes expression of protein absorption factors in the intestine of goldfish (*Carassius auratus*)

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ABSTRACT. Protein use is crucial for the ovulation and spawning of fish. Currently, limited information is available regarding the expression of protein absorption factors during the breeding seasons of teleosts and thus how various proteins involved in this process is not well-understood. The expression of CDX2, CREB, glutamate dehydrogenase, LAT2, aminopeptidase N, PepT1, and SP1 were significantly elevated from the non-breeding season to the breeding season in female goldfish, and all proteins except PepT1 and SP1 were elevated in male goldfish. Injection of human chorionic gonadotropin upregulated the expression of all proteins except for aminopeptidase N in female goldfish and SP1 in male goldfish, suggesting a luteinizing hormone-inductive effect on protein absorption factors. Protein use in the intestine is increased during the breeding seasons as a result of increased luteinizing hormone.

Key words: Goldfish; Human chorionic gonadotropin; Intestine; Hypothalamic-pituitary-gonad axis