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Analysis Of Lvctl3 Gene Transcription Encoding C-Type Lectin from White-Leg Shrimp (Litopenaeusvannamei) Infected Black Gill Disease

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Abstract

C-type lectin is crucial for the innate immune response in white-leg shrimp (Litopenaeus vannamei), particularly during pathogenic infections. The expression of C-type lectin genes is upregulated in response to bacterial and viral pathogens. This study aimed to investigate the expression of the LvCTL3 gene, which encodes C-type lectin, in white-leg shrimp (Litopenaeus vannamei) affected by black gill disease in Hue City, Vietnam. Using real-time PCR with specific primers for LvCTL3 and an actin reference gene, gene expression was analyzed across six shrimp tissues: intestine, stomach, hemocytes, gills, and muscle. The results revealed that LvCTL3 gene transcription was highest in the intestine of shrimp with black gill disease, underscoring the pivotal role of LvCTL3 in the shrimp's immune defense mechanism.

Keywords: Black Gill, C-Type Lectin, Gene Encoding, LvCTL3 Gene, White Leg Shrimp