

International Conference on Transcriptomics

July 27-29, 2015 Orlando, USA

Gene and proteomic analysis of differentially expressed protein in hemocytes of giant freshwater prawn *Macrobrachium rosenbergii* infected with infectious hypodermal and hematopoietic necrosis virus (IHHNV)

Alinejad, Tahereh. Vejjayan. Rofina Yasmin Othman. Subha Bhassu.
University of Malaya, Malaysia

Epizootic diseases cause huge mortality and economical losses at post larvae stages in freshwater prawn aquaculture industry. These prawns seem less susceptible to viral diseases except for Infectious Hypodermal and Hematopoietic Necrosis Virus (IHHNV). During viral infection in prawns, hemocytes are the primary organ that shows immunological response within the early stages of infection. We applied proteomic approaches to understand differential expression of the proteins in hemocytes during the viral disease outbreak. To aid the goal, we collected *Macrobrachium rosenbergii* broodstocks from the local grow out hatchery which reported the first incidence of IHHNV viral outbreak during larvae stage. Primarily, application of the OIE primer targeting 389 bp fragments of IHHNV virus were used in identification of the infected and non-infected samples of the prawn breeding line. Analysis of two-dimensional gel electrophoresis showed specific down-regulation of Arginine kinase and Sarcoplasmic calcium-binding protein and up/down-regulation of Pro-phenoloxidase1 and Hemocyanin isoforms. These proteins were validated using semi quantitative RT-PCR and gene transcripts at mRNA level. These identified proteins can be used as biomarkers, providing a powerful approach to better understanding of the immunity pathway of viral disease with applications in analytic and observational epidemiology diagnosis. Proteomic profiling allows deep insight into the pathogenesis of IHHNV molecular regulation and mechanism of hemocyte in Freshwater prawns

talinejad61@yahoo.com

Notes: