STUDY ON TAURO SYNDROME AND SEQUENCES OF TAURO SYNDROME VIRUS IN BLACK TIGER SHRIMP (Penaeus monodon) IN THAILAND

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ABSTRACT

Taura syndrome virus of black tiger shrimp (TSV-BT) isolates were classified using the “Taul-F and Taul-R” which was developed as a new primer set generated from the capsid protein precursor of taura syndrome virus. The new primer set showed high sensitivity and specificity to TSV-BT. The homology of nucleotide sequences indicated that TSV-BT strains were 99.4 % similarity to TS sequenced from Taiwan TSV and 98.8% to Mexico TSV. Alignment of amino acid sequences in taura syndrome virus strains from Thailand and Taiwan were different from Mexico strains in the same position of 1 amino acid residue found as Phenylalanine for Thailand and Taiwan strains and Leusine for Mexico strains. Therefore, the possibility of TSV isolated from TSV-BT is originated from Taiwan TSV.

Taura syndrome virus isolated from black tiger shrimp were challenged to 6-8 gram shrimp by injection. Hundred percent mortality was found 3-day after injection, while no mortality was found in control group. The challenged samples were confirmed by RT-PCR technique. The results showed all samples were infected with TSV-BT.

During February to May 2004, shrimp samples were collected from Chachoengsao, Ratchaburi, Nakron-Pathom, Samutprakan, Samutsakhon, Samutsongkhram and Petchaburi provinces. Infections of TSV were found in black tiger shrimp in all provinces. Symptom and lesion of diseased shrimps were different depended on the levels of infection by TSV. TSV mostly infected shrimp between 20–60 days in grow-out pond rearing in low water salinity, showing as multiple melanized on shell, but in high salinity water white spotted on shell was observed.

Keywords: black tiger shrimp, Taura syndrome virus, sequences, TSV primers