



Differential diagnosis of active hypodermal and hematopoietic necrosis virus based on gene choice and reverse transcription coupled with PCR

M.A. Teixeira¹, J.E.F. Cruz¹, P.R.N. Vieira¹, I.R.C. Branco², F.H.F. Costa³
and G. Rádis-Baptista¹

¹Instituto de Ciências do Mar, Universidade Federal do Ceará, Fortaleza, CE, Brasil

²Associação dos Criadores Cearenses de Camarão, Fortaleza, CE, Brasil

³Departamento de Engenharia de Pesca, Universidade Federal do Ceará, Fortaleza, CE, Brasil

Corresponding author: G. Rádis-Baptista

E-mail: gandhi.radis@ufc.br

Genet. Mol. Res. 9 (4): 2025-2031 (2010)

Received May 20, 2010

Accepted July 20, 2010

Published October 13, 2010

DOI 10.4238/vol9-4gmr917

ABSTRACT. The Pacific whiteleg shrimp *Litopenaeus vannamei* (Penaeidae) is one of the most important cultivated species in world aquaculture. In Brazil, the northeastern states are home to the main shrimp producers. As shrimp aquaculture has expanded and intensified, diseases have progressively become one of the most serious threats to this industry. Infectious hypodermal and hematopoietic necrosis virus (IHHNV) is an enzootic viral agent in Brazilian shrimp farms. Its is usually diagnosed by histological methods. However, to detect sub-clinical or acute IHHNV infection, more refined methods based on molecular techniques have been utilized. We found that by using “universal” primers and a single-step PCR diagnostic test, it was difficult to distinguish between non-infective forms of the virus and

active IHHNV. Detection of IHHNV was more accurate when we used two alternative molecular strategies, namely 1) single-step PCR amplification based on gene choice and 2) reverse transcription coupled with PCR.

Key words: Molecular diagnosis; Shrimp aquaculture; RT-PCR; *Litopenaeus vannamei*; Shrimp virus; IHHNV