

# 魚類神經壞死病毒即時反轉錄聚合酶鍊鎖反應方法之確立

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## 摘要

病毒性神經壞死病是一個在許多種類海水魚嚴重的病毒性疾病，會造成經濟上嚴重的損失，感染魚隻會有視網膜與中樞神經系統的壞死。此病的致病原為野田病毒科中的神經壞死病毒，是擁有兩段單股正向 RNA 的病毒，此病毒為臺灣魚隻出口國際重要的檢疫條件，為符合輸出越南之檢疫條件，建立以特異性探針(TaqMan probe)進行神經壞死病毒即時反轉錄聚合酶鍊鎖反應之檢測方法。本實驗包含檢測此方法之敏感性、特異性以及再現性，以確認此方法之準確度與穩定度。今年三月至九月共利用此方法檢測 126 個水產樣本，其陽性率為 12.7%，陽性的所有樣本均為石斑魚;以同樣的水產樣本利用 RT-PCR 檢測，陽性率為 4.8%，因此可知即時反轉錄聚合酶鍊鎖反應方法可以提高神經壞死病毒檢測的敏感性，進而達到協助國人出口魚苗的目的。

# **Validation of a real-time TaqMan-based RT-PCR assay for the detection of nervous necrosis virus**

Shao-Hui, Cheng

## **Abstract**

Viral nervous necrosis (VNN) is considered to be a serious disease of several marine fish species, characterized by significant economical losses associated to vacuolating lesions of the central nervous system and the retina. The causative agent of VNN is nervous necrosis virus, consists of two molecules of positive-sense ssRNA, which is identified as a member of the family *Nodaviridae*. This virus is an important quarantine requirement for the importation of live fishes in many countries. Because the special quarantine requirement of Vietnam, we set up a real-time TaqMan-based RT-PCR (reverse-transcriptase polymerase chain reaction) assay for detecting nervous necrosis virus in live fishes for export in our laboratory. In this report, we described results of the sensitivity, specificity and reproducibility of this method tested in our laboratory. From March to September this year, 126 samples from marine fish were tested by two methods, including the real-time TaqMan-based RT-PCR and the conventional RT-PCR. The positive rates of the samples tested by the real-time TaqMan-based RT-PCR and the conventional RT-PCR were 12.7% and 4.8%, respectively. The real-time TaqMan-based RT-PCR method is more sensitive than conventional RT-PCR. Using this method can assist the exportation of live fishes to Vietnam.