



Research Paper

IDENTIFICATION OF NEWLY ISOLATED MICROSPORIDIAN NIK-1Pr CAUSING PEBRINE DISEASE IN SILKWORM *BOMBYX MORI* L., USING CONVENTIONAL PCR TECHNIQUE

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ABSTRACT

The bio-chemical and PCR analyses for identification of NIK-1Pr, a newly isolated microsporidian strain from *Pieris rapae* were conducted and results compared with the type species, *Nosema bombycis*. The NIK-1Pr was found to infect the commercial silkworms. The protein content in NIK-1Pr was significantly higher when compared with that of *N. bombycis*. The lowest OD recorded was 2.95×10^{-2} and 1.75×10^{-2} in NIK-1Pr and *N. bombycis*, respectively on a concentration of 10 μ l / ml. The highest OD was observed at a concentration of 1000 μ l / ml (13.15×10^{-2} and 10.80×10^{-2} , respectively). To confirm the identity of pathogen as a true microsporidian, the DNA was isolated and tested in a PCR using the universal rRNA primers. The primers generated an expected PCR fragment (1250 bp) and these results clearly suggest that the identified pathogen is in fact a microsporidian isolate and possibly belonging to the genus, *Nosema*. It is concluded that the insect pests associated with mulberry may harbor a number of infective microsporidia thus posing a threat of pebrine infection to commercial silkworms.

Key words: *Bombyx mori* L., NIK-1Pr, *Nosema bombycis*, PCR analysis, pebrine.