

Molecular markers in commercial *Bombyx mori* (Lepidoptera: Bombycidae) hybrids susceptible to multiple nucleopolyhedrovirus

L.F.C. Ribeiro^{1,2}, D.B. Zanatta¹, J.P. Bravo¹, R.M.C. Brancalhão² and M.A. Fernandez¹

¹Departamento de Biologia Celular e Genética,
Laboratório de Organização Funcional do Núcleo,
Universidade Estadual de Maringá, Maringá, PR, Brasil

²Departamento de Ciências Biológicas e da Saúde,
Laboratório de Biologia Celular e Microtécnica,
Universidade Estadual do Oeste do Paraná, Cascavel, PR, Brasil

Corresponding author: M.A. Fernandez
E-mail: aparecidafernandez@gmail.com

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ABSTRACT. The silkworm *Bombyx mori* L. is particularly susceptible to virus diseases, especially *B. mori* nucleopolyhedrovirus (BmNPV). Disease resistance, along with high productivity, are important selection criteria for developing commercial hybrids of *B. mori*. We used bioassays and molecular markers linked to susceptibility/resistance to baculovirus infection to analyze the response of commercial *B. mori* hybrids from two companies to a geographic isolate of *B. mori* multiple nucleopolyhedrovirus (BmMNPV) from Paraná State in Brazil. Both of these commercial lines were highly susceptible to BmMNPV, with death rates of 92 and 94%. A polymorphic fragment of approximately ~350 bp, associated with susceptibility, and an ~800-bp fragment, associated with resistance to BmMNPV, were detected in all specimens. An additional fragment of

~480 bp, recently identified by our research team as a BmMNPV genomic sequence, was detected in the infected silkworms and could be used as a molecular marker for the diagnosis of nucleopolyhedrovirus infection.

Key words: Silkworm; *Bombyx mori* multiple nucleopolyhedrovirus; Molecular markers; Random amplified polymorphic DNA; Polymorphism