Molecular Cloning and Sequencing of a Viral Enhancing Factor (Enhancin) Gene in the LdNPV-NM

Hee Jin Shim, Jin Hee Chang, Yeon Ho Je and Kyung Saeng Boo

Graduate School of Agricultural Biotechnology, Seoul National University

An enhancin gene that encodes a homolog to the granulovirus (GV) enhancin protein that is capable of enhancing the infection of other dispar baculoviruses. has been identified from Lymantria nucleopolyhedrovirus (LdNPV). The enhancin gene is cloned from a Korean isolate LdNPV-NM by a PCR technique. LdNPV-NM enhancin gene exhibits 2,353 nucleotides and can encode a 783-amino acid protein with a predicted molecular mass of 89,200 Da. The DNA sequence and the deduced amino acid sequence of the enhancin gene show 98.7% and 97.5% identity compared to the previously reported enhancin gene (Kuzio al.. 1999). LdNPV-NM enhancin also contains conserved zinc-binding domain characteristic of metalloproteases.