

Molecular cloning and expression of a cDNA encoding a novel attacin-like antibacterial protein gene isolated from *Bombyx mori*

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With a cDNA library constructed from fifth-instar *Bombyx mori* injected with *E. coli*, BmInc6 clone was isolated by differential screening using naive and induced mRNA probes. A complete nucleotide sequence of BmInc6 cDNA was determined. Its insert size was 852 bp and had a open reading frame that started translation at position 35 and stopped at 679. And its putative polyadenyational signal was existed at 812 bp. The number of amino acid deduced from BmInc6 cDNA was 214 and hydropathy analysis showed that this protein was hydrophilic. This protein deduced by BmInc6 was named as Nuecin. When the nuecin gene was expressed in Sf9 cells using baculovints expression vector system, about 950 bp of transcripts was detected and SDS-PAGE analysis showed that the molecular weight of intracellular expressed protein was about 23 kDa. Antibacterial activity of nuecin was tested using concentrated culture media of recombinant virus infected Sf9 cells against some gram positive and negative bacteria. The result showed that antibacterial activity of nuecin against *E. coli*, *Bacillus subtilis* was especially high and nuecin had a wider antibacterial spectrum than attacin.