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A novel cell clone adapted to serum-free medium, qb-tn9-cl-f, which overproduces baculovirus-introduced recombinant proteins derived from new *Trichoplusia ni* cell line

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The continued development of new cell culture technology is essential for the future growth and application of insect cell and baculovirus biotechnology. The use of cell lines for academic research and for commercial applications is currently dominated by two cell lines; the Spodoptera frugiperda line, SF21 (and its clonal isolate, SF9), and the *Trichoplusia ni* line, BTI-5B1-4, commercially known as High Five cells. High Five cells has been sufficiently expressed high recombinant protein. However, a contaminated TNCL virus was reported from High Five cells which sufficiently expressed high level of recombinant proteins recently. Herein, to erase the TNCL contamination and improve ability of higher expression, a novel cell clone with higher level of recombinant proteins, QB-Tn9-CL-F(QB-CL-F), from *Trichoplusia ni* QB-Tn9-4S cell line has been established. It has been adapted to SF-900 III SFM, commercial serum-free medium. The cell morphology, cell growth kinetics, and virus production of the serum-free cultures were indistinguishable when compared with High Five cells of serum-containing cultures (TNM-FH). RAPD analysis of the genomic DNA of this clone confirmed the genetic identify as T. ni cells. To the most, the QB-Tn9-CL-F cell clones were free of the TNCL virus examined by RT-PCR.

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