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Cloning of the Gene for Outer Membrane Protein H *from Pasteurella multocida* and Introducing into the *Solanum tuberosum L.*

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Objectives

We have investigated to make transformation of outer membrane protein H (OmpH) from *Pasteurella multocida* through *Solanum tuberosum* L. and OmpH gene will be used for the large-quantity production of recombinant OmpH as a effective edible vaccine using tissue-specific gene expression system of plants.

Materials and Methods

1. Material

Plant - *Solanum tuberosum* L.

Agrobacterium strain - LBA4404/pBI121

E.coli expression vector system - BL21(DE3) host cell and pRSET A expression vector

2. Methods:

Cloned *OmpH* gene of *Pasteurella multocida* serogroup A is joined into pBI121 vector. This vector introduce into prepared *agrobacterum* LBA4404 for transformant *Solanum tuberosum* L.

Results and Discussion

Pasteurella multocida, a gram-negative anaerobic bacterium, is one of the most notorious animal pathogens causing widespread infections. Porins located in outer membrane are thought to be attractive vaccine candidates for induction of homologous and heterologous immunity against infections of gram-negative bacteria. Outer membrane protein H (OmpH) is a major component of outer membrane protein in the envelope of *P. multocida*. In this study the OmpH gene isolated from pathogenic serogroup A is composed 1,047 nts. Sequence similarity is very high from 80 to 98% among the strains. The recombinant OmpH was expressed well in *E. coli* using pRSET A vector system. OmpH gene will be used for the large-quantity production of recombinant OmpH as a effective edible vaccine using tissue-specific gene expression system of plants. After construction of transformant *Solanum tuberosum* L., OmpH antibody constructed form recombinant OmpH antigen will be used for confirm that tissues of the transgenic plant express OmpH protein.

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