



Electronic Journal of Biotechnology

E-ISSN: 0717-3458

edbiotec@ucv.cl

Pontificia Universidad Católica de Valparaíso
Chile

Arenas, Gloria; Marshall, Sergio H.; Espinoza, Valeria; Ramírez, Ingrid; Peña-Cortés, Hugo
Protective effect of an antimicrobial peptide from *Mytilus edulis chilensis* expressed in
Nicotiana tabacum L.

Electronic Journal of Biotechnology, vol. 9, núm. 2, abril, 2006, pp. 144-151

Pontificia Universidad Católica de Valparaíso

Valparaíso, Chile

Available in: <http://www.redalyc.org/articulo.oa?id=173313794008>

Abstract

A "defensin-like" antibacterial peptide from *Mytilus edulis chilensis*, was sub-cloned into a binary vector for expression in plant tissues. The resulting new clone was electroporated into *A. tumefaciens* to transform tobacco plants. The presence of the construct in transgenic tobacco lines was demonstrated through RT-PCR, Northern and Western blots. Transformed positive plants were selected and grown for challenging. Tobacco leaves were infiltrated with *Pseudomonas syringae* pv. *syringae* and visual lesions determined at different times post-exposure. Of seven plants exposed, four gave variable protection up to seven days post-infection while one of them appears to be fully protected. These results suggest that defensin-like antimicrobial peptides from molluscs are a good source to provide resistance of tobacco plants to *Pseudomonas syringae* pv. *syringae*.

Keywords

Antibacterial peptide, disease resistance, in vivo expression, *Nicotiana tabacum* L., *Pseudomonas syringae* pv. *syringae*, transgenic tobacco plants

- How to cite
- Complete issue
- More information about this article
- Journal's homepage in redalyc.org

redalyc.org

Scientific Information System

Network of Scientific Journals from Latin America, the Caribbean, Spain and Portugal

Non-profit academic project, developed under the open access initiative