Expression of dirigent protein and Pinoresinol/Lariciresinol reductase genes of forsythia in transgenic potatoes.

Tran Van Chuong, Hyunsoon Kim, Jiyoung Park, Jaeyoul Joung, Jungwon Youm
Jaeheung Jeon*

Plant Cell Biotechnology Lab. Korean Institute of Bioscience and Biotechnology (KRIBB) Scientific Advisor. Daejon 305-333. KOSEF Post-Doctoral fellow, Post-Harvest Technology Institute of Vietnam. 4 Ngo Quyen, Hanoi. Corresponding Author: Tel: 82-42- 860-4492, Fax: 82-42-860-4599, E-mail: jeonjh@kribb.re.kr

Abstract

We tried to introduce two forsythia genes related in lignan biosynthesis, dirigent protein and pinoresinol/lariciresinol (P/L) reductase, into potatoes for accumulation of lignans in transgenic potatoes. We made binary vectors overexpressing dirigent protein gene and P/L reductase gene driven by a CaMV35S promoter and transformed into potatoes via Agrobacterium mediated transformation. And in order to control the metabolic flux of lignan biosynthesis pathway, we tried to inhibit chalcone synthase genes of potatoes by antisense inhibition technique also. We tried to use PCR screening method for selection of transgenic plants of different vectors. We tried to determine and compare lignan contents from different transgenic potato lines.