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Isolation and properties of Cyclin Gene in Plant Tumor from *Nicotiana langsdorffii* and *Nicotiana glauca*

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Objectives

We studied D-type cyclin gene in hybrid plant between *N. langsdorffii* and *N. glauca*, to characterize role of D-type cyclin gene in cell cycle controlling and tumor generation in plant.

Materials and Methods

1. Plant materials : *Nicotiana langsdorffii*, *Nicotiana glauca* and its interspecific hybrid plant
2. Methods: RT-PCR, Sequencing analysis, Southern analysis, SEM, FACS

Results and Discussion

The hybrid plants made from the cross between *N. langsdorffii* and *N. glauca*.

We isolated B- and D-type cyclin from hybrid tobacco plant. Both B-type cyclin and D-type cyclin were conformed homology compared with other species. In Southern blotting analysis to study DNA copy number in the each plant, it were showed that D-type cyclin copy number is one from parents at different size and two from hybrid and tumor at correspond to parents's respectively. To study the pattern of D-type cyclin expression, we performed RT-PCR showing that D-type cyclin expressed in N.G, hybrid plant and their tumor except N.L. D-type cyclin of hybrid plant induced tumor were from *N. glauca* which is minus group. Though cross section of stem of parent and hybrid, we found that the cell size of N.L was more larger than one of N.G, and cell density of N.G was higher than in N.L. Hybrid plant had a intermediate phenotype between N.G and N.L.

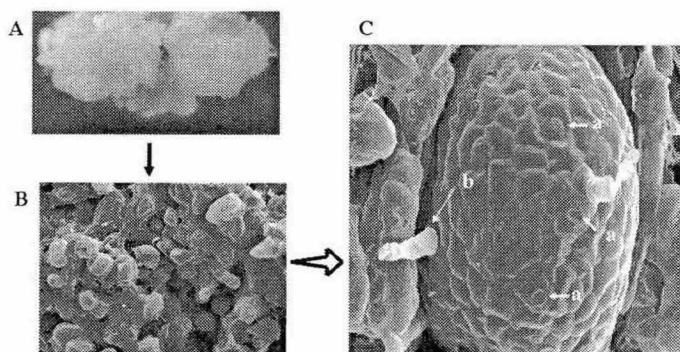


Figure. Formation of genetic tumor tissue on the surface of tumor. A: tumor from leaf disk hybrid plant, B: x150 of A, C: x300 of A. a: stoma, b: trichome.