

SL204

연사 4

The junctional and structural roles of S ribonucleases of gametophytic self-incompatibility in *Lycopersicon peruvianum*

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Lycopersicon peruvianum has a gametophytic self-incompatibility(GSI) mechanism, which is genetically controlled by a single genetic locus(S locus) with multiple alleles. S RNases and their cDNAs cosegregate with their respective S alleles in genetic cross. To examine if an intact RNase gene from *L.peruvianum* with its native promoter can confer self-incompatible phenotype to heterologous self-compatible species, it was introduced into a tobacco plant (*Nicotiana tabacum* cv. Xanthi). The resultant transgenic *N.tabacum* expressed in mature pollens, developing anthers, ovules and style tissues in a similar manner to the *L.peruvianum* during flower development. This expression in style tissue was coincident with onset of SI of *L.peruvianum*. The level of the transcript and protein product of the S RNase gene in style of transgenic tobacco plants are comparable to those of *L.peruvianum*. The obtained transgenic plants, however, did not show the behaviour of GSI. From this result, we suggest that putative modifier gene(s) that interact with S RNase are necessary for change self-incompatible cultivar plant to SI phenotype.