Detection of a mutation at codon 43 of the *rps*L gene in *Xanthomonas oryzae* pv. *oryzicola* and *X. oryzae* pv. *oryzae* by PCR-RFLP

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ABSTRACT. The aim of this study was to develop a method to detect a point mutation in the ribosomal S12 protein (*rps*L) gene in streptomycin-resistant strains of *Xanthomonas oryzae* pv. *oryzicola* and *X. oryzae* pv. *oryzae*. The polymerase chain reaction-restriction fragment length polymorphism (PCR-RFLP) method was developed to detect a point mutation in codon 43 of the *rps*L gene in *X. oryzae* pv. *oryzicola* and *X. oryzae* pv. *oryzae*. The 304-bp PCR product from the *rps*L gene was digested by *Mbo*II to form two fragments (201 and 103 bp) if there was a mutation at codon 43, or three fragments (146, 103, and 55 bp) if there was no mutation. Compared with the results from nucleotide sequencing, the PCR-RFLP method was accurate in detecting the point mutation at codon 43 of the *rps*L gene in streptomycin-resistant strains of *X. oryzae* pv. *oryzicola* and *X. oryzae* pv. *oryzae*. These results indicate that the

PCR-RFLP is a simple, rapid and reliable method for detecting the point mutation at codon 43 of the *rps*L gene.

Key words: Molecular diagnosis of PCR-RFLP; Point mutation; Ribosomal protein S12 (*rps*L) gene; *X. oryzae* pv. *oryzae*; *Xanthomonas oryzae* pv. *oryzicola*

