

Infeksi Cacing Tambang pada orang dewasa dan perannya sebagai salah satu penyebab anemia defisiensi besi: Aspek Imunoepidemiologi

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Abstract

Two avirulent mutants, B90 and B 119 strains, which have a Tn5 insertion in their chromosome were isolated and characterized. B90 and B119 strains exhibited similar growth rate to that of parent strain (A208) on LB, AB, TB, and YEB media. Both mutants are avirulent in all plants tested: *Kalanchoe daigremontiana*, *Cucumis sativus* L., *Daucus carota*, *Helianthus annuus* L., *Raphanus sativus* L., and *Cucurbita moschata* Duch. The two mutants were not impaired in attachment ability to *Zinnia* leaf mesophyll cells. Two chromosomal virulence genes, *acvI* and *acv B*, were isolated using B90 and B119 strains, respectively. The ORFs of the genes were confirmed by complementation analysis and the "Frame" program analysis. Mutation in *acvB* gene affected neither the induction of vir genes on Ti plasmid by acetosyringone nor production of T-strand. *acvB* gene existed only in *Agrobacterium* but not in other bacteria. The *acvB* gene homolog, *virJ*, was found on octopine type Ti plasmid but not on nopaline Ti plasmid. *acvB* gene were expressed constitutively and its gene product (AcvB protein) was localized in periplasm in all *Agrobacterium* strain. The transfer of T-DNA to tobacco (BY2) cells was impaired with B119 mutant strain (*acvB*). The gel retardation and immunoprecipitation experiments demonstrated that *acvB* protein has ssDNA binding activity. A T-complex containing *acvB* and *virE2* protein was detected in the periplasm of *A. tumefaciens* (A208 strain, *acvB*+) cells induced with acetosyringone. Acv B protein stimulated the incorporation of ssDNA into tomato leaf protoplasts. Acv B protein itself was not capable of targeting the ssT-DNA into the nucleus of host plant cells. B119 strain (*Acv B*-) did not transfer its T-DNA into tobacco (BY2) cells even when the tobacco cells expressed *Acv B* gene inside the cells. Taken together all the results mentioned above, it was concluded that *Acv B* protein, gene product of *Acv B* gene, is localized in the periplasmic space of *Agrobacterium* and binds to T-strand to mediate its transfer to host plant cells.