Thesis Title: Cloning of *recA* gene from *Xanthomonas oryzae isolate 8707*

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ABSTRACT

RecA-like gene of *Xanthomonas oryzae isolate 8707* chromosomal DNA have been cloned by using rationale of complementation *E. coli recA*- mutation and selected for mitomycin C resistant phenotype. Four transformants from six thousand colonies were retransformed into *E. coli DH5a, HB101 and BW368* and checked for MMS and mitomycin C resistant.

Result from Southern blot analysis of one of these transformants named *pSM-A1* confirmed that the insert portion of this clone derived from *Xanthomonas oryzae isolate 8707* chromosomal DNA. Significantly, from immunological analysis antiserum raised against *E. coli* RecA protein cross-reacted with *Xanthomonas phaseolin, Xanthomonas oryzae 8707, Xanthomonas campestris pv campestris.* Furthermore, it also cross-reacted with cell lysate from *E. coli BW368* harboring pSM-A1 but it did not react with cell lysate from *E. coli BW368* RecA protein. A single band detected from pSM-A1 cell lysate with an apparent molecular weight nearly equal to a single

band detected from *Xanthomonas oryzae isolate 8707* cell lysate and a protein band molecular weight 40,000 *E. coli* protein. These results indicated that pSM-A1 clone contains *Xanthomonas oryzae isolate 8707 recA*-like gene.