Identification and Detection of *Xanthomonas campestris* pv. *campestris* in Taiwan by Enzyme-Linked Immunosorbent Assay[1]

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SUMMARY

Double sandwich(DAS), and indirect(ID) ELISA were compared for the assay of *Xanthomonas campestris* pv. *campestris*(abbreviated to Xcc)by using an antiserum against strain XC38 of Xcc. Sensitivities of DAS-ELISA and ID-ELISA were similar , but DAS-ELISA was more specific than ID-ELISA . When 32 strains of bacteria other than Xcc were tested in DAS-ELISA, only *X. campestris* pv. *vesicatoria* reacted positively, however, 3 out of 62 Xcc strains tested, then failed to react with anti-XC38 r-globulin in DAS-ELISA. An extraction buffer consisting of 0.01 M-phosphate buffer(pH 7.2), 0.1% Tween 80 and 0.125% glutaraldehyde for antigens was found that it increased specific reaction and decreased nonspecific background. Using this procedure, the sensitivity of DAS-ELISA was at 3.3×10^4CFU / ml for pure culture of Xcc when monitored photometrically and was at 1.3×10^5-2.6×10^5 CFU / ml when determined visibly. This procedure was also suitable for the detection of Xcc in diseased leaf tissues. Generally, the sensitivity of DAS-ELISA was lower than that of direct isolation with selective medium , but the reaction in DAS-ELISA seldom intefered by other microorganisms existing in samples. It may be used for assay of large-scale seed samples, confirmation of suspected colonies on selective medium, or rapid identification of suspected diseases on cruciferous crops or weeds.

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