PREPARATION OF AN ANTIGEN OF *CHLAMYDIA PSITTACI* SUITABLE FOR ENZYME-LINKED IMMUNOSORBENT ASSAY

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In order to utilize enzyme-linked immunosorbent assay (ELISA) for the serodiagnosis of chlamydial infection, the basic conditions necessary to prepare the antigen were evaluated. Elementary bodies (EB) of *Chlamydia psittaci* were treated with β-propiolactone (BPL), sodium dodecyl sulfate (SDS) and $NaClO_4$ (a chaotropic ion). These three kinds of treated antigens were compared by ELISA for their reactivities to antibodies against *Chlamydia psittaci*. Furthermore, these antigens were used for biotin-labeled antigen sandwich (BLAS) ELISA to detect chlamydial antibodies in human serum and that from a variety of animals, regardless of the species- and class-specificities of immunoglobulin.

The results were summarized as follows.

1. The antigenic components were not solublized from EB particles by 0.2% BPL, but were completely solublized by 1% SDS, and partly by 0.5M $NaClO_4$.
2. BPL-treated antigen showed weak reactivity against positive sera and was judged to be unsuitable for ELISA.
3. SDS-treated antigen showed high reactivity against positive sera, caused a high level of non-specific reaction to negative sera, and was revealed to be unavailable for ELISA.
4. $NaClO_4$-treated antigen reacted to positive sera with a high titer, caused a low level of non-specific reaction to negative sera and was judged to be useful for ELISA.
5. These three antigens were labile with KIO_4-treatment but resistant to pronase-treatment, which suggested that the antigenic components were carried on the carbohydrate moiety.
6. The three kinds of antigens were biotinylated and were used for BLAS-ELISA, but none of the antigens were applicable for the BLAS-ELISA due to the high levels of non-specific reactions.