



Title	KINETIC STUDIES ON THE ANTIGEN PRODUCTION AND PROPAGATION OF CHLAMYDIA PSITTACI DURING ITS DEVELOPMENTAL CYCLE
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INFORMATION

Hokkaido University granted the degree of Master of Veterinary Medicine to the following 41 graduates of the Graduate School of Veterinary Medicine on 25 March, 1988.

The authors' summaries of their theses are as follows :

KINETIC STUDIES ON THE ANTIGEN PRODUCTION AND PROPAGATION OF *CHLAMYDIA PSITTACI* DURING ITS DEVELOPMENTAL CYCLE

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In order to analyse the unique intra-cellular development of chlamydiae, the time of antigen production in the infected cells was examined using monoclonal antibodies (MAbs) against *Chlamydia psittaci* strains Izawa-1 and Pigeon-1401 (P-1041). In addition, experiments to examine the relationship between the antigen production and the morphological changes of chlamydial particles during the developmental stages were performed and monitored by observing cytoplasmic inclusion with electron microscope.

Strains Izawa-1 and P-1041 were used to infect Vero E6 cells and were examined every 6hr after infection up to 48hr by the indirect immunofluorescent antibody technique with MAbs. The antigens of Izawa-1 were detected at 6, 18, 24 and 42hr post-infection, respectively. And the antigens of P-1041 were detected at 6, 12, 24 and 30hr post-infection, respectively.

The time of appearance of common antigens of strains Izawa-1 and P-1041 was examined using 9 MAbs cross reactive to the 2 strains. The common antigens were divided into three groups ; the first group was detected with homologous MAbs earlier than with heterologous MAbs, the second one was detected at the same time with homologous and heterologous MAbs, and the third was detected with heterologous MAbs earlier than with homologous MAbs.

Every 6hr after infection up to 48hr, the cells infected with strain Izawa-1 were fixed and observed under an electron microscope. A genus-specific antigen (lipopolysaccharide) was detected from 6hr after infection, and other protein antigens were detected with various time courses of infection. These results suggested that chlamydiae had antigens unique to elementary bodies and that there were common antigens between elementary bodies and reticulate bodies.