



Title	STUDIES ON THE INDIRECT FLUORESCENT ANTIBODY TECHNIQUE FOR THE DETECTION OF AVIAN ENCEPHALOMYELITIS ANTIBODY AND CLASSIFICATION OF THE IMMUNOGLOBULIN OF THE ANTIBODY
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## INFORMATION

Hokkaido University granted the degree of Doctor of Veterinary Medicine to the following 5 researchers on 24 March, 1973 under a new regulation (1962) authorizing the granting of the Doctor's degree to qualified researchers who were not graduates of the Graduate School of Veterinary Medicine.

The titles of their theses and other information are as follows:

### **STUDIES ON CHEMOTHERAPY OF SWINE ERYSIPELAS**

Hayami AZECHI

*National Veterinary Assay Laboratory  
Kokubunji, Tokyo, Japan*

Original reports of this thesis appeared in "Journal of the Japan Veterinary Medical Association", Vol. 24, 92~97 (1971), and "American Journal of Veterinary Research", Vol. 33, 1963~1973 (1972).

### **STUDIES ON THE INDIRECT FLUORESCENT ANTIBODY TECHNIQUE FOR THE DETECTION OF AVIAN ENCEPHALOMYELITIS ANTIBODY AND CLASSIFICATION OF THE IMMUNOGLOBULIN OF THE ANTIBODY\***

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This thesis describes the use of an indirect fluorescent antibody technique (IDFAT) to detect avian encephalomyelitis (AE) virus antibody and the immune status of chicken flocks, and to trace antibody activities of the chicken sera after AE infection.

1) Establishment of the IDFAT for the detection of AE virus antibody in chickens.

2) In the test of 323 serum samples (135 birds), IDFAT was more sensitive than the virus neutralization test (VNT), and proved a more rapid method for recognizing the immune status of certain chicken flocks for AE than VNT and

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\* A part of this thesis appeared in *Avian Diseases*, **16**, 949 (1972). The remaining parts will be published in this journal.

the embryo-susceptibility test. Furthermore, it showed a high reliability.

3) The serum antibodies were detected by IDFAT 1 week after infection and the titers increased almost in parallel with that of the neutralization index.

4) Maternal antibodies in eggs were found by the IDFAT 2 weeks after the mother hens had been infected.

5) IDFA activity was found in both the IgM and IgG at the initial stage of the infection, and then shifted from IgM to IgG. However, the IgM antibody in chickens remained for a long time after infection. IgM was more active to IDFAT than to VNT.

### **STUDIES ON COLIBACILLOSIS IN PIGS**

Mamoru KASHIWAZAKI

*National Institute of Animal Health  
Kodaira, Tokyo, Japan*

Original reports of this thesis appeared in "Cornell Veterinarian", Vol. 59, 611~621 and 622~634 (1969).

### **STUDIES ON SEROLOGIC DIAGNOSIS OF MULTILOCULAR ECHINOCOCCOSIS, ESPECIALLY ON THE HEMAGGLUTINATION TEST USING FRACTIONATED ANTIGENS AND UTILIZATION OF *CYSTICERCUS FASCIOLARIS* ANTIGENS**

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The author conducted experiments to separate specific antigenic materials from the hepatic cyst of experimental animals, and to obtain a suitable reaction method for the diagnosis of multilocular echinococcosis. This study was also planned for the purpose of clarifying the fact that a negative or low titer was obtained by the tannic acid hemagglutination test when crude echinococcal antigens were reacted with sera from multilocular human cases. The author also investigated substitute antigens from *Cysticercus fasciolaris*. The results obtained are summarized as follows.

1) The cystic fluid and scolex extracts of *Echinococcus multilocularis* were fractionated by means of DEAE cellulose columns in a stepwise fashion using