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Author(s)	TAKAGI, Masatoshi
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**DETERMINATION OF IGM AND IGG ANTIBODIES AGAINST  
FLAVIVIRUS IN BOVINE SERA BY ELISA**

Masatoshi TAKAGI

*Department of Veterinary Public Health  
Faculty of Veterinary Medicine  
Hokkaido University, Sapporo 060, Japan*

ELISA was examined for its usefulness as a serodiagnostic method for bovine flavivirus infection. The antibody titers against Japanese encephalitis virus JaGAR-01 strain, Negishi virus and Apoi virus were determined using anti-IgM and anti-IgG conjugates. The specificities of the conjugates and the cross-reaction between the flaviruses were studied.

The results obtained were as follows.

1) Antibody titers against JaGAR-01 sucrose acetone extracted (SA) antigen were compared in bovine sera collected from two districts of northern Hokkaido and Kagoshima prefectures. The prevalence of ELISA-IgM antibody in 45 bovine sera from northern Hokkaido was 8.9 % that of ELISA-IgG antibody. ELISA-IgM antibody was detected in 50 % of 48 bovine sera from the Kagoshima prefecture, while was considerably higher than the percentage (27 %) of ELISA-IgG antibody prevalence. ELISA-IgM specific cases and -IgG specific cases were detected in 35.4 % and 12.5 % of the sera from Kagoshima.

2) The sera fractionated through Sephadex G-200 were determined for the titer against the JaGAR-01 acetone ether extracted (AE)-zonal antigen using anti-IgM and anti-IgG conjugates. The specificities of the two conjugates were ascertained by the evidence that specific reaction occurred only between the homologous combination of fraction vs. conjugate.

3) AE-zonal antigen containing less amount of mouse brain components decreased a nonspecific reaction but did not change any specific titer ; thus the minimum dilution for positive reaction could be lowered to 1:20.

4) The existence of tick-borne encephalitis virus and Apoi virus in Kagoshima was suggested by the presence of ELISA antibody positive bovine sera against both viruses.