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**STUDIES OF MEMBRANE ANTIGENS IN JAPANESE QUAIL  
EMBRYO FIBROBLAST CELL CULTURE INFECTED  
WITH HERPES VIRUS OF TURKEYS**

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The purpose of the present study is to examine the nature of antigens which stimulate anti-viral immunity against Marek's disease (MD), and the nature of the immune response of the host. By the immunofluorescent antibody technique, the membrane antigen (MA) which was detected on the surface of Japanese quail embryo fibroblast (QEF) cells infected with herpes virus of turkeys (HVT), used as vaccine virus of MD, was studied.

The results will be summarized as follows :

- 1) Absorption of hyperimmune chicken sera to HVT particles or common-antigen (Ag) with normal QEF cells removed non-specific fluorescent staining against normal QEF cells.
- 2) Absorption of the anti-HVT particles hyperimmune chicken sera with cells showing virus-induced intracellular antigen (VIA) decreased its staining activity against VIA, but not against MA.
- 3) Absorption of the anti-common-Ag hyperimmune chicken sera with MA positive cells decreased its staining activity against MA, but not against VIA.
- 4) By using a blocking test with anti-HVT sera, the dilution of the blocking serum was well correlated with the blocking index of MA and VIA.
- 5) Thirty-eight sera from chickens infected with HVT were examined for the titers of anti-MA, anti-VIA, anti-early appearing membrane antigen (EMA), and anti-late appearing membrane antigen (LMA) and those of serum neutralization, and their relationship with each other was compared. An apparent correlation was noted between anti-LMA titer and serum neutralization titer. In addition, there was some correlation between anti-VIA titer and serum neutralization titer.

From these results, it could be concluded that MA and VIA are antigenically different from each other, and anti-LMA antibody correlates with the virus neutralization antibody.