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TARGET CELLS FOR MAREK'S DISEASE VIRUS OR TURKEY HERPESVIRUS INFECTION

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Marek's disease (MD), a lymphoid neoplasm of chickens, is caused by Marek's disease virus (MDV). The target cells for neoplastic transformation of MDV are considered to be T-cells. Herpesvirus of Turkeys (HVT), which is antigenically related to MDV, is used widely for MD vaccine. Although MDV and HVT are thought to infect various types of cells in chickens, the target cells for the virus infections are not well known. The purpose of the present study is to search for the target cells for MDV- or HVT- infection. The results were summarized as follows:

1) From MDV- or HVT-inoculated chickens, the viruses were isolated from all lymphoid tissues and peripheral blood lymphocytes (PBL) after 8-10 days post inoculation (DPI). MDV and HVT were isolated mainly from non-adherent bone marrow (BM) cells.

2) In the lymphocytes from the thymus, bursa and spleen of the MDV-inoculated chickens, viral intracellular antigen (VIA)-positive cells were detected only at 5 DPI. However, after cultivation of these cells and others, VIA-positive cells were detected in the lymphocytes from all lymphoid tissues and PBL was obtained after 8 DPI. On the other hand, in HVT-inoculated chickens, no VIA-positive cells were detected, but after cultivation of the lymphocytes from the thymus and spleen and PBL, they were detected only at 10 DPI.

3) In *in vitro* experiments, normal chicken lymphocytes, lung cells and peritoneal exudate cells, and various line cells were inoculated with cell-free MDV or HVT. The adherent BM cells and lung cells were susceptible to MDV. However, thymus cells, bursa cells, spleen cells, PBL, lung cells and adherent BM cells were susceptible to HVT. In the experiments employing line cells, TLT-1 cells were susceptible to both MDV and HVT.

From these results, target cells for MDV or HVT infection could not be specified, but the difference of the infectious status in lymphocytes with MDV and HVT was noticed.