# CHICKEN FETAL ANTIGEN EXPRESSED ON THE CELL SURFACE OF MAREK'S DISEASE LYMPHOBLASTOID CELL LINES

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Various kinds of antigens are expressed on the cell surface of Marek's disease (MD) lymphoblastoid cell lines, including MD tumor-associated surface antigen (MATSA), chiken fetal antigen (CFA) and other antigens. In the present study, the expression and characterization of CFA expressed on MSBl cells were investigated using a monoclonal antibody (2H3). The results were summarized as follows:

1. 2H3 reacted specifically with the various cells, except peripheral blood lymphocytes from chicken embryos. The reactivity of the antibody to the red blood cells, bursa cells, liver cells and fibroblasts from chicken embryos was similar to that of anti-chicken fetal red blood cells rabbit serum, but dissimilar to that of anti-chicken alpha-fetoprotein rabbit serum. 2H3 also reacted with quail embryo fibroblasts and bone marrow cells from adult chickens.
2. 2H3 reacted with all of the lymphoblastoid cell line cells established from MD, avian leukemia and reticuloendotheriosis tested so far. In the spleen cells, bursa cells and thymus cells from chickens inoculated with MD virus at one day of age, the transient increase in their reactivities to 2H3 was observed at one to three weeks postinoculation.
3. By the double staining method, the staining pattern of CFA on MSB1 cells was slightly different from that of MATSA, although both atigens were dotted in the same place.
4 By SDS-PAGE and Western blotting analysis, soluble CFA purified from MSB1 cells was found to be a complex antigen which consisted of some components having an apparent molecular weight of 50000, 64000 and 74000, and the CFA determinant was shown to be a polypeptide with an apparent molecular weight of 50000.
5. The activity of natural killer (NK) cells prepared from spleen cells of normal chickens against MSB1 cells was suppressed by treatment of the cells with CFA. The same suppression of NK activity was observed in the spleen cells from chickens inoculated with CFA.
6. The CFA treatment enhanced tumor development in some of the chickens inoculated with MSBl-clo. 18 cells at two-weeks old, whereas regression of tumors was observed in nontreated chickens.