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CHICKEN T-LYMPHOCYTE SURFACE ANTIGENS CHARACTERIZED BY MONOCLONAL ANTIBODIES

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Only a few monoclonal antibodies (MAb) against chicken T-lymphocyte surface antigens have been established. We report here on the production of three MAbs (Lc-1, Lc-2 and Lc-4) against chicken thymocytes.

Lc-1 (IgG₁) reacted with 80% of thymocytes but not with spleen and peripheral blood lymphocytes nor Marek's disease (MD) lymphoblastoid cell line cells. The MAb precipitated polypeptides from thymocytes with apparent molecular weights of 100 kilodaltons (K) and 60K.

Lc-2 (IgM) reacted with 40% of thymocytes and several MD cell line cells but not with peripheral lymphocytes.

Lc-4 (IgG₁) reacted with 70% of thymocytes, 30% of spleen lymphocytes and 10% of blood lymphocytes but did not react with any MD cell line cells tested. The MAb also reacted with quail thymocytes. The antigenic determinants on the cell surface recognized by Lc-4 were highly susceptible to treatment with trypsin or pronase.

None of the MAbs reacted with bursa cells or bone-marrow cells. Antigens recognized by Lc-1 and Lc-2 were found in the chick embryo thymus from 13 days of incubation and rapidly increased thereafter. Antigen recognized by Lc-4 was found in the thymus from day 15 and reached a plateau level on day 18 during incubation.

The antigens recognized by these MAbs seemed to be different from major histocompatibility antigens.