ANALYSIS OF PREPARED MONOCLONAL ANTIBODIES AND POST-NATAL DEVELOPMENT OF CANINE LYMPHOID TISSUES

Yukihiko IWAMI

Department of Veterinary Surgery
Faculty of Veterinary Medicine
Hokkaido University, Sapporo 060, Japan

Eight monoclonal antibodies (MoAb) against canine peripheral blood lymphocytes were prepared in our laboratory (1989 : 177–1 ; Inoue, 1990 : CLS-1, 3, 13, 23, 28 and 38 ; Kobayashi). In previous reports, the antibodies were characterized partially by flowcytometric study of the cell surface antigens recognized by MoAb and by immunohistochemical study of their tissue distribution.

In this study, the antigens recognized by five MoAb, 177–1, CLS-1, 3, 23 and 28, were further analyzed for their molecular weight (MW) and histological distribution in canine lymphoid tissues such as the thymus, spleen, mesenteric lymph node, palatine tonsil and Peyer's patches, by observing postnatal development of the tissues.

CLS-1 precipitated antigens of 43kd and >200kd. On the basis of these MW, it was assumed that the antigens might be equivalent to human CD53 antigen. However, the results of flowcytometry did not support this assumption.

CLS-3 precipitated an antigen of >200kd. The distribution of the antigen recognized by CLS-3 resembled that of human CD5 antigen, although differing in MW.

CLS-23 precipitated antigens of >200kd, 50kd and 14.7kd. Based upon these MW, together with the flowcytometric and histological findings, it was thought that the antigen recognized by CLS-23 might be identical to human CD47 or CD58.

CLS-28 precipitated an antigen of 59kd and reacted with most of the mature T cells ; thus the antigen recognized by CLS-28 was thought possibly equivalent to human CD16 or CD58.

Germ centers in conventionally reared dogs developed early in the palatine tonsil, Peyer's patches and mesenteric lymph nodes, which were exposed continuously to exogenous antigen, while developing relatively late in the spleen.