CD3

ANTISERUM: DAKO (A0452). Polyclonal (rabbit) antibody.

SPECIFICITY ACCORDING TO MANUFACTURER:
   It has been produced against synthetic human CD3 peptide (amino acids 156-168 of the CD3 epsilon chain) coupled with thyroglobulin.
   The antibody reacts with the intracytoplasmic portion of the CD3 antigen expressed by T cells. The antigen was designated CD3 at the First International Workshop on Human leukocyte Differentiation Antigens (Paris, 1982). CD3 consists of five polypeptide chains (gamma, delta, epsilon, zeta and eta) with molecular masses ranging from 16-28 kDa.
   The CD3 antigen is first detectable in early thymocytes and its appearance probably represents one of the earliest signs of commitment to the T cell lineage. In cortical thymocytes the antigen is predominantly present as an intracytoplasmic constituent. It appears subsequently (at the medullary thymocyte stage) on the T cell surface. Extensive studies have shown that CD3 is a highly specific marker for T cells. No other cells are known to express the CD3 antigen, with the possible exception of Purkinje cells in the cerebellum.
   Antibodies to the intracytoplasmic domain of the CD3 epsilon chain have been shown to detect CD3-positive T cells in routinely processed material (formalin-fixed, paraffin-embedded tissue).

REACTIVITY ACCORDING TO MANUFACTURER:
   Normal cells: This antibody stains human T cells in both cortex and medulla of the thymus and in peripheral lymphoid tissues. This staining can be seen in cryostat sections and in formalin-fixed, paraffin-embedded tissue sections.
   Tumors: It is present in the great majority of T cell neoplasms although occasional tumors have lost the antigen as part of the neoplastic process. This is more common in high grade T cell lymphomas. This antigen is also expressed in some cases of malignant histiocytosis and Hodgkin’s disease.

IMMUNOHISTOCHEMICAL TECHNIQUE ACCORDING TO MANUFACTURER:
   Formalin-fixed, paraffin-embedded tissues: It needs proteolytic digestion of the tissue (trypsin, pronase) for approximately twice the usual time. This step is not necessary for tissues fixed with Bouin’s method. The staining can be improved using heat-based antigen retrieval methods. Immunoperoxidase or immunoalkaline methods are suitable. The approximate dilution of the antibody is 1/50 to 1/100.

WORKING DILUTION: 1/400-1/800. Pretreatment with steamer (citrate buffer, pH 6.0).

METHOD: LSAB 2-PO. 30 min. RT.

CELLS/TISSUES STAINED (CANINE UNLESS SPECIFIED):
   Lymph node: Massive reaction in paracortical areas. Occasional cells positive in germinal centers. Variable numbers of positive cells in medullary cords and sinuses.
SPECIES REACTIVITY: Dog, cat, cow, horse, goat, pig, mouse, new world camelids.

REFERENCES: