A FUNDAMENTAL STUDY ON THE CLINICAL APPLICATION OF ALPHA-NAPHTHYL ACETATE ESTERASE STAINING IN DOGS

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The present study was undertaken to investigate the staining of canine peripheral blood lymphocytes with alpha-naphthyl acetate esterase (ANAE).

The results obtained were summarized as follows:

1) Optimal staining conditions of canine peripheral blood lymphocytes for ANAE were 37°C, 3 hours or 20°C, 10 hours or 4°C, 21 hours and pH 5.8-6.3.

2) The enzyme responsible for the ANAE activity was stable, and complete activity was retained even when slides were kept at room temperature for 24 hours before fixation or for 1 month after fixation.

3) The ANAE positive percent of nylon fiber nonadherent lymphocytes was significantly ($P<0.01$) high as compared to that of lymphocytes separated by a Ficoll-Conray gradient. The latter was significantly ($P<0.01$) higer compared to that of nylon fiber adherent lymphocytes.

4) The percent and the absolute number of ANAE positive peripheral blood lymphocytes of normal beagles were 69.4% and 1.83×10^6/ml, respectively.

5) In dogs transplanted with transmissible venereal sarcoma, both the percent and the absolute number of ANAE positive peripheral blood lymphocytes decreased in the growth state and increased in the stable state.

The above results suggest that ANAE staining is particularly useful for identification of canine peripheral blood T lymphocytes, and that it may contribute to veterinary clinics as a criterion of cellular immunity.