diagnosis. From the results of serodiagnostic test and pathological examination, it suggests that Em18 is a marker of the early stage of infection, whereas Em16 shows the advanced stage.

A study of the clinical application of adenosine deaminase in dogs

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This study was carried out in order to investigate the suitability of adenosine deaminase (ADA) for clinical diagnosis in dogs.

Initially the serum and plasma levels of ADA in 26 normal dogs were determined and a reference range was established as follows : 4.67 ±2.15 IU/l and 4.99±2.78 IU/l, respectively. Then, the effect of following possible influential factors on ADA activity namely ; (1) blood lysis, (2) storage condition of whole blood, serum and plasma, and (3) circadian rhythm and lunar periodicity (physiologic variation), were investigated.

It was observed that blood lysis and physiologic variation had no influence on the ADA activity. However, the serum ADA activity in whole blood kept at 25°C increased as the duration of time increased, but this phenomenon was not seen in blood of cows and cats. These results therefore, suggest that keeping whole blood at room temperature for a long time can influence ADA activity in dogs. Furthermore, the ADA activity in serum and plasma remained stable four weeks at −20°C but decreased to half its original level after 12 and 3 hours at 4°C and 25°C, respectively.

To clarify the relationship between lymphocytes and ADA, dog peripheral blood lymphocytes were exposed to ConA in culture. The level of ADA activity in stimulated lymphocytes increased about 2.5 times more than that of controls. Furthermore, the toxic effect of 2-Chlorodeoxyadenosine (CdA), one of ADA inhibitors commonly used in humans, to dog peripheral blood lymphocyte activation was investigated during induction by ConA. CdA did not inhibit lymphocytes activation.

The clinical significancy of adenosine deaminase was tested in three cases of canine lymphoma. Serum ADA levels were measured following chemotherapy. It could not make clearly correlate ADA activity with tumor behavior.

Finally, this study provides fundamental data on ADA activity in whole blood, plasma and serum of dogs under different storage conditions. It further provides information on changes in ADA activity in ConA stimulated lymphocyte. This data will therefore, be useful in future studies investigating the clinical application of ADA in dogs.