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STUDY OF THE AMERLEX FREE T3 RIA KIT FOR IMMUNOASSAY OF SERUM FREE T3 CONCENTRATION.

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Almost all of serum thyroxine (T4) and triiodothyronine (T3) are bound to TBG, TBPA and albumin, but about 0.03 % of the T4 and about 0.3% of the T3 circulate as the free fraction. It is considered that the free fraction exert biological effect as thyroid hormone and we now evaluated the Amerlex Free T3 RIA kit for immunoassay of free T3 concentration developed from Amersham International (England).

It is based on the same principle of the Amerlex Free T4 RIA kit. 100 μl of serum sample is mixed with 500 μl of ^{125}I-T3 derivative which does not bind to TBG, TBPA and albumin and 500 μl of high affinity T3 antibody bound to small particles (Amerlex T3 Antibody suspension) and incubated at 37℃ for 2 hours. After centrifugation supernatant is discarded and the radioactivity of precipitate is counted. Assay range of this kit is 0-40pmol/l. Reproducibility within assay was3.2-5.7% as C.V. % and reproducibility between assay was 3.0-5.7 %. It was excellent near the normal range. Free T3 concentration from normal subjects was 2.5-7.4 pmol/l (mean ± 2S.D.)

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RADIOIMMUNOASSAY FOR HUMAN RENIN.

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Renin is one of the most difficult substances to isolate, and plays important roles for the control of blood pressure and the cause of nephrogenous hypertension. We developed direct radioimmunoassay system to measure plasma renin concentrations using highly purified human renal renin.

Human renal renin was obtained from a partially purified preparation, Haas' preparation, by affinity chromatography etc. and the purity was hundreds of thousands fold from human kidneys. The antiserum was prepared by immunizing rabbits with purified human renin and was used for radioimmunoassay with final dilution of 1:30,000. The I-125 labeled renin was prepared with Chloramine T method and was purified by gel-filtration with Sephadex G75. Radioimmunoassay was performed by double antibody method with delayed addition method. In this assay the sensitivity was 0.2ng/ml and smooth standard curves were obtained over the range from 0.2 to 8 ng/ml. The correlation coefficient between plasma renin concentrations measured by our method and plasma renin activities was r=0.779(n=55).

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RADIOIMMUNOASSAY USING SYNTHESIZED HUMAN PARATHYROID HORMONE PTH(1-84).

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Recently the measurement of serum PTH becomes important in the diagnosis of disorders of calcium metabolism. However, circulating PTH are immunoheterogeneous, so it is well known that measured PTH values are different because of the difference of specificity in each assay system. We developed the radioimmunoassay using synthesized human PTH(1-84).

Antiserum was prepared by immunizing rabbits with PTH(1-84) and was used for radioimmunoassay with final dilution of 1:20,000. The I-125 labeled antigen was prepared with Chloramine T method and was purified with Quso. Radioimmunoassay was performed by double antibody method with delayed addition method. In this assay the sensitivity was ca.0.4ng/ml and over the range from 0.4 to 25ng/ml smooth standard curves were obtained. Cross reactivity against various PTH fragments showed that C-terminal, N-terminal and midregion fragments were not detectable, whereas intact or nearly intact PTH were detectable. Correlation coefficient with carboxy terminal specific RIA-mat-PTH kit was r=0.78.

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SOLID PHASE RADIOIMMUNOASSAY OF HUMAN PROLACTIN (PROLACTIN RIABEAD).

DAINABOT COMPANY LIMITED, MATSUDO, CHIBA, JAPAN.

On routine-assay we need simple and speedy, precise and reproducible measurement in assay of many specimen.
We developed new Solid Phase RIA for human Prolactin (PROLACTIN RIABEAD) which was satisfied with these demands.
This kit has simple and speedy assay procedure without centrifugation for B.F. separation and provides the ready to use reagents. And then the assay requires only 4 hours incubation at room temperature and provides the user with same day results. Besides, this kit is precise and reproducible RIA for the quantitation of prolactin levels in human serum or plasma. The standard curve covers a range of 0-300 ng/ml prolactin without sample predilution. The sensitivity of this kit has been found to be less than 3.5 ng/ml. On percent coefficient of variation (CV %) of the precision, that of intra-assay is 2.4 to 6.1 % (n=10), that of inter-assay is 3.3 to 6.6 % (n=10). The actual recovery is 100.3 %. In the correlation between PROLACTIN RIAKIT and PROLACTIN RIABEAD, the correlation coefficient is 0.99, the regression line is y=1.05x + 0.78 (x=PROLACTIN RIAKIT, y=PROLACTIN RIABEAD).