

assays was $Y=1.06X+0.18$ and coefficient of correlation was 0.99. TSH crossreacted 15% with antiserum for LH, FSH also crossreacted less than 7% and prolactin 0.4%. GH and ACTH did not crossreact.

Correlationship between Kit A and Kit B: Regression equation was $Y(\text{ng/ml})=0.08X(\text{mIU/ml})+0.06$ ($X=0-300 \text{ mIU/ml}$) and Coefficient of correlation was 0.97. Plasma LH level in normal males calculated using this expression was $0.7 \pm$

0.17 ng/ml .

In these findings two problems were indicated. (1) Kit B was inadequate in observing the small LH changes near the resting level. (2) In both kits, especially Kit A, not only HCG but TSH and FSH remarkably crossreacted with antiserum for LH. When plasma samples containing high concentration of TSH or FSH are assayed, LH values may be modified by these hormones.

Basic Studies and Clinical Applications of Radioimmunoassay Kit for Human Prolactin

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Recently, a specific and sensitive radioimmunoassay (RIA) kit for human prolactin (PRL) has been developed by CEA-IRE-SORIN(CIS). By using this kit, the following basic and clinical experiments were performed.

The standard curve of this kit was almost completely paralleled with the standard curve by MRC 71/222 added in this kit. Moreover, the dilution curve of the plasma from a patient with hyperprolactinemia was also paralleled with this standard curve. The assay sensitivity of this kit was from 2.5 ng/ml to 200 ng/ml of serum or plasma. The cross-reactivity of with LH, FSH, TSH, GH, HCG, HPL, TRH, LH-RH and Somatostatin were not seen in this assay. Plasma samples with human PRL concentrations of 3 ng/

ml , 15 ng/ml , 120 ng/ml and 250 ng/ml had intra-assay coefficients of variation of 23.4%, 7.6%, 15.2% and 10.5% respectively. Inter-assay coefficient of variation of human PRL 20 ng/ml was 16.9%.

In clinical use, the fasting PRL level of normal male subjects ($n=20$) was $11.3 \pm 6.0 \text{ ng/ml}$. This value was almost coincided with the datum obtained from our NIH kit. The patients with hyperthyroidism, breast cancer and anorexia nervosa showed normal PRL values. However, patients with acromegaly and Cushing's syndrome showed a slightly high PRL values.

These data suggest that this kit is clinically a very usefull tool for measuring human PRL.

Studies of Gastrointestinal Hormones by Radioimmunoassay

Report II. Radioimmunoassay of Secretin

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In our previous papers we reported on the radioimmunoassay of gastrin and secretin. The present study was undertaken to investigate further fundamental aspects of secretin assay. The results obtained are reported in this paper.

For the study were employed an antiserum preparation with an antibody titer of 1: 6000 (supplied by Eisai K.K.), Schwarz-Mann 6-tyrosyl

secretin as labelled secretin and purified secretin from raw extracts as reference standard.

Under various conditions (involving dilution of antibody, one- or two-step method, concentration of protein added, addition or non-addition of trasylol, and pH value of buffer) calibration curves were prepared and compared.

For assay samples containing secretin at a con-