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FUNDAMENTAL STUDIES OF "AMERLEX":RIA SEPARATION SYSTEM USING ANTIBODY COATED MICROPARTICLES.

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RIA separation systems using specific antibody bound to surface of polymer particles having a few micron of diameter ("Amerlex" system, trade mark) were developed. The kinetics of "Amerlex" reaction is similar to those of liquid phase reaction. The particles are uniform in size, and the density and the size have been chosen and optimized. Accordingly they are homogenously dispersed in suspension during dispensing and during the assay, and they can be easily centrifuged down at the end of assay incubation. "Amerlex" is very convenient to practice and easily automated, also have short incubation and good precision. Moreover "Amerlex" is not affected by change in protein leveles of the sample.

"Amerlex" for the determination of serum T3,T4 leveles and serum or urine cortisol leveles were estimated fundamentally, and they were considered quite suitable for routine test in the laboratory.

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BASIC STUDIES OF RIA-GNOST C-PEPTIDE.

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C-peptide has been determined by the double antibody radioimmunoassay, but RIA-gnost C-peptide kit using polyethylene glycol (PEG) has provided a simpler method for C-peptide assay. This report describes the results of basic studies of the kit.
When examined with pooled sera containing C-peptide at 3 concentration (low, middle, and high), the coefficient of variation (C.V.) of the assay results ranged between 2.8 and 5.1% and, thus, the values with the kit proved highly reproducible. Separately, such pooled serum of low C-peptide concentration was mixed with standard sera of known concentrations and the recovery (assayed value /expected value) in each mixture was calculated. Consequently, the recovery avaraged 106%. The avarage recovery in standard sera diluted with C-peptide-free human serum and 0.1M PBS (pH 7.2) containing 5% human serum albumin and 1.2% human immunoglobulin G similarly was 96.8%. In addition, we investigated other basic studies; comparative test, specific study for antiserum and etc.. As above, the present test results indicated that RIA-gnost C-peptide kit should be available for daily clinical tests.

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BASIC STUDIES OF RIA-GNOST ß 1-SP 1.

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ß 1-SP 1 is protein specific to pregnancy with ß 1-electrophoretic mobility and is produced in the placenta. Its molecular weight is approximately 90,000 and a carbohydrate content of 28%. This report describes the results of RIA-gnost ß 1-SP 1 kit for its assay.
This kit permits radioimmunological determination of the ß 1-SP 1 in human serum. The reproducibility of assay values and the recovery (assayed value/expected value) were examined with pooled sera containing the protein at 3 concentration (low, middle, and high). As the result, the coefficient of variation (C.V.) of the values ranged from 3.5 to 6.0% and the recovery averaged 107.9 %. In addition, when assayed standard sera diluted with ß 1-SP 1-free human serum, human males serum and horse serum, the avaraged recovery of dilution test was 95.3 %. These results and other basic studies; specific study for antiserum and etc., showed the availability of this kit.