EVALUATION OF SOLID PHASE T4-RIA (SPAC T4-RIA)
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This study presents the usefulness of new T4-RIA Kit (SPAC T4-RIA). Tubes used in this kit are coated by T4 antibody.

In this study we examined the procedure, reproducibility and the specificity of antibody which is used in this kit.

Serum T4 concentrations of 217 cases including 74 normal subjects and various thyroid diseases were measured by this method. T4 values by this method was compared with those measured by CPBA, double antibody technique, another type of solid phase method.

The cross-immunoreactivity of this antibody between KIT, DIT, T3, and T3 was observed to be negligible. B/T was increased gradually in incubation at 37.0°C by 60 minutes but came to be plateau there after. We recognized that this kit could be used at room temperature in 90 minutes’ incubation. Standard curve showed dose response to T4 concentration (2.0–40ug/dl), and paralleled dilution curve of high T4 concentration serum. Both recovery and reproducibility studies were admitted to be excellent.

Means (±SE) of serum T4 concentrations by this method were 8.0±0.2 ug/dl in normal and the normal range was computerized as 5.0–12 ug/dl. T4 concentrations were 16.7±1.0 ug/dl in 18 hyperthyroidism, 3.0±0.3 ug/dl in 18 hypothyroidism, 8.7±1.9 ug/dl in 9 simple goiter, 8.4±0.9 ug/dl in thyroid adenoma, and 7.0±0.7 ug/dl in pregnant women. T4 concentration by this method showed significant correlation between those measured by double antibody technique, CPBA, and another solid phase method respectively. Among these solid phase method similar to our technique showed most excellent correlation.

It was concluded that this method is excellent to measure T4 concentrations in serum.

BASIC AND CLINICAL ASSESSMENT OF THE SPAC T4 RIA KIT
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Recently, SPAC T4 RIA test, one of the in vitro thyroid tests was developed. Basic and clinical investigation was evaluated.

In basic experiments, the standard curve did not vary by incubation time between 30 to 70 minutes.

In various thyroid functions, the reproducibility of intraassay and interassay was satisfactory.

Satisfactory data was also obtained in dilution tests between 2 to 40 µg/dl.

The retrieval test revealed 90 to 96%.

In clinical examinations, there was good correlation between SPAC T4 and RIA MAT T4.

The normal values of SPAC T4 ranged between 3.1 to 12.6 µg/dl.