

EVALUATION OF T<sub>3</sub> UPTAKE INDEX USING T<sub>3</sub> ANTIBODY (SPAC T<sub>3</sub>)

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Basic and clinical evaluation on new method of T<sub>3</sub> uptake test was performed.

SPAC T<sub>3</sub> Uptake Kit consists of antibody tubes in which certain amount of T<sub>3</sub> antibody was coated, 125-I-T<sub>3</sub> solution and standard serum sample.

Bound percent of 125-I-T<sub>3</sub> to the Antibody tube was 32.2% in T<sub>3</sub> free sample, 31.6% in 10 ng/ml of T<sub>3</sub> sample, 30.5% in 20 ng/ml of T<sub>3</sub> and 30.1% in 30 ng/ml of T<sub>3</sub> sample. T<sub>3</sub> Uptake Index by this method was not affected by the addition of 1 μg/ml of T<sub>3</sub> to serum sample.

Optimal incubation time for this kit was from 15 to 60 minutes. Coefficiency of variance of T<sub>3</sub> Uptake Index by decaplicate assay varied from 5 to 9.1%.

T<sub>3</sub> Uptake Index was 0.99±0.01 in 61 normal, 1.59±0.10 in 16 hyperthyroidism, 0.74±0.02 in 18 hypothyroidism, 1.01±0.03 in 22 chronic thyroiditis, 1.03±0.06 in 9 simple goiter, 0.88±0.66 in 8 thyroid adenoma, 0.88±0.55 in 14 normal pregnant women.

T<sub>3</sub> Uptake Index was well correlated with Res-O-mat T<sub>3</sub> (r=-0.7253, n=133) and Triosorb (r=0.8348, n=53).

From above data, SPAC T<sub>3</sub> Uptake kit is well designed T<sub>3</sub> uptake kit for clinical use.

STUDIES ON SPAC T<sub>3</sub> UPTAKE KIT FOR THE MEASUREMENT OF THYROID HORMON

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Basic and clinical studies are performed to evaluate Spac T<sub>3</sub> uptake kit which is one of solid phase radioimmunoassay kits. Material and method; The effects of incubation time and temperature as well as serum volume and washing time on the value of T<sub>3</sub> uptake are examined. Repeatability and reproducibility of T<sub>3</sub> uptake are measured. Clinically T<sub>3</sub> uptake are calculated in the patients with various thyroid diseases and the values which are obtained by Spac kit are compared with those by other kits, such as Resomat T<sub>3</sub> kit and Konsul T<sub>3</sub> uptake kit. Results; On the patients with hyperthyroid, the value of T<sub>3</sub> uptake decreased with increased incubation time and on hypothyroid it increased. It is necessary to keep strictly determined incubation time (30-60 min). As for the incubation temperature, T<sub>3</sub> uptake on hyperthyroid decreased with increased incubation temperature and increased on hypothyroid. Influences of the serum volume and the washing times on T<sub>3</sub> uptake values were not found. The coefficients of variation for intraassay were 2.74 - 3.70% and for interassay were 3.04 - 4.08%, respectively.

The mean T<sub>3</sub> uptake index by this method in normal human serum, hyperthyroid serum and hypothyroid serum were 1.01±0.07 (m±SD, n=33), 1.44±0.11 (m±SD, n=20) and 0.77±0.05 (m±SD, n=4) respectively. Good correlation between T<sub>3</sub> uptake index by Spac kit and Konsul kit were obtained. (r=+0.979 Y=0.90X +3.89) And Correlation between T<sub>3</sub> uptake Index by Spac and TBC Index by Resomat showed good correlation (r=-0.957 Y=-0.80 X + 1.82).