

D. Measurement III (In vitro Radioimmunoassay)

DETERMINATION OF REVERSE-T₃ KIT USING BY RIA METHOD
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Determination of the assay method of DAINABOT rT₃
 KIT was performed and the following results were
 obtained.

1. The optimal incubation time was 20 hours and
 the separation of B,F by centrifugation was
 sufficient at a room temperature.
2. A reproducibility, recovery rate and dilution
 curve were all excellent.
3. A cross reaction of rT₃ to T₃ not recognized.
 Minimized cross reaction of rT₃ to T₄ was observed,
 however, this cross reaction was negligible on a
 usual measurement of serum rT₃.
4. The value of 22 normal subjects was 27.3 ± 6.6
 ng/dl (Mean \pm SD). In 13 patients with hyperthyroi-
 dism, the value was 180.2 ± 99.5 ng/dl and in 6
 patients with hypothyroidism the value 10.6 ± 8.2 ng/
 dl respectively.

Conclusion: Determination of DAINABOT rT₃ KIT was
 a useful tool to understand a peripheral metabolism
 of thyroid hormones.

Measurement of 3,3',5' triiodothyronine(rT₃) in human
 serum with radioimmunoassay.

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A radioimmunoassay for rT₃ in human serum has
 been developed. Anti-rT₃ antibody was produced by
 immunization of rabbit with rT₃-bovine serum albumin
 conjugate. Antibody had no crossreactivity with
 thyroid hormones or its analogues.
 Assay procedure was performed in 0.08M barbital
 buffer with 0.2% BSA(pH 8.6). Bound and free form
 were separated with polyethylene glycol.
 In this assay system, sensitivity was 1.0ng/dl,
 recovery was approximately 100%, intraassay reproduci-
 bility was 4.0% and interassay variation was 6.2%.
 RT₃ levels in serum were 27.4 ± 8.9 (Mean \pm SD) in normal
 subjects, high in hyperthyroid patients and low in
 hypothyroid patients. RT₃ levels in serum were
 decreased during antithyroid drug treatment in
 patients with hyperthyroidism. RT₃ levels in serum
 were increased during T₄ treatment in patients with
 hypothyroidism. RT₃ levels in serum were high in
 patients with acute hepatitis, myocardial infarction,
 or multiple myeloma.

From these data this assay system renders attractive
 for clinical determination of rT₃ in human serum.