

Reverse T3 (rT3)

ELISA.

ENDOCRINE FUNCTION



Excellent marker of tissue hypothyroidism.

With expanding knowledge of thyroid function complexities, it is becoming clear that reverse T3 (rT3) can serve as an excellent marker of tissue hypothyroidism which is not usually detected by standard TSH or serum T3 and T4 levels.

PHYSIOLOGY

Under any kind of physiological or emotional stress, illness, inflammation, dieting, depression and numerous other conditions, T4 is preferentially converted to rT3 which acts as a competitive inhibitor of T3, reduces metabolism, suppresses T4 to T3 conversion and blocks T4 and T3 uptake into the cell.

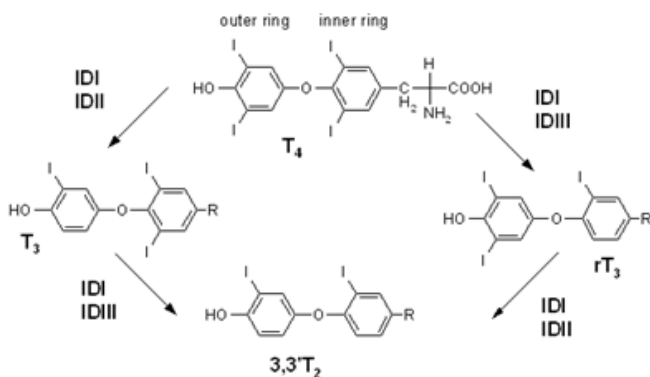


Figure 1: 3,3',5'-Triiodo-L-thyronine is known as reverse triiodothyronine or reverse T3 (rT3), and differs from 3,3',5'-Triiodo-L-thyronine (T3) in the positions of the iodine atoms in the molecule. The majority of circulatory rT3 is synthesized by peripheral deiodination of thyroxine (T4) with the help of Deiodinase III (IDIII).

Reverse T3 is present in varying concentrations in different tissues and serves as an indicator of reduced T4 to T3 conversion and low intracellular T3 levels even if the TSH is normal.

Products

30123153
reverse T3 (rT3)

Related products

RE55221
TSH ELISA

RE55231
FT3 (Free Triiodothyronine) ELISA

RE55241
FT4 (Free Thyroxine) ELISA

RE55251
Total Triiodothyronine (T3) ELISA

RE55261
Total Thyroxine (T4) ELISA

rT3 is a competitive inhibitor of T3, blocking T3 from binding to its receptor and blocking T3 effect, consequently reducing thyroid activity (Figure 2, next page).

Even small increases in rT3 level can result in a significant decrease in thyroid action and subsequently severe hypothyroidism which is not detected by standard blood tests.

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