

## Your Test Results - Reverse T3 (Triiodothyronine)

### Reverse T3 (Triiodothyronine)

#### Interpretation

Optimal thyroid function involves the conversion of **Thyroxine (T4)** to the more active thyroid hormone **Triiodothyronine (T3)** by a process known as monodeiodination (T4 loses an iodine atom). This is activated by a deiodinase enzyme, which in turn uses essential nutrients such as selenium as co factors. In some people this process may be impeded, resulting in T4 being converted to a form of T3 that is inactive, other-wise known as **Reverse T3 (rT3)**. rT3 can attach to receptor sites, but cannot activate metabolic functions and therefore becomes a competing factor to T3. High levels of rT3 might be responsible for blocking the function of thyroid when the body is stressed or diseased resulting in a slowing down of metabolism.

Factors such as: chronic stress (disease, surgery, burns etc.); mental stress (depression, bereavement); use of crash diets for weight loss; poor diets lacking in nutrients; and increased toxic load may possibly block the conversion of T4 to T3 and speed up the conversion to rT3, hence resulting in a form of thyroid dysfunction at a cellular level, otherwise known as hypothyroidism.

It is recommended to measure both rT3 and T3 at the same time, as rT3 may be in the normal range but with a low ratio. T3/rT3 ratio is also a useful gauge to indicate tissue hypothyroidism.



**Your Result:** **ng/dL - High**

**Normal Range: 10-24ng/dL**

#### High levels of Reverse T3

Reverse T3 (rT3) is measured to be above the reference range, indicating increased peripheral conversion of T4 into rT3. Increased rT3 levels are frequently observed in starvation diets or fasting, in prolonged or chronic viral infections, in severe non-thyroidal illness, in long term drug use and in severe stress. Increased production of rT3 is usually observed in conjunction with decreased T3 production and indicates an adaptive change in order to conserve energy. Selenium is necessary for the optimal conversion of T4 to T3, therefore a deficiency in selenium could also result in elevated reverse T3 levels.

#### Laboratory Units

Test results are given in ng/dL. To convert from ng/dL to nmol/L, multiply the ng/dL result by 0.01536