



# NutriPATH

Phone: 1300 688 522

## TEST PATIENT

Date of Birth : 01-Jan-1962  
Sex : F  
Collected : 08-May-2013

Lab id : **3337835**

## Dr TEST DOCTOR

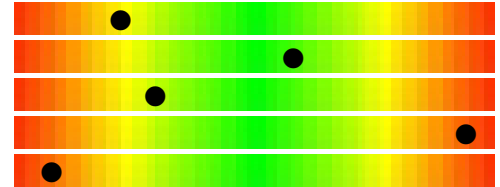
10 Glendalough Crt  
WATSONIA VIC 3087

## ENDOCRINOLOGY

BLOOD - SERUM

### THYROID FUNCTION ASSESSMENT

	Result	Range	Units
<b>TSH</b>	<b>0.40 *L</b>	0.50 - 5.00	mIU/L
<b>FREE T4</b>	<b>17.2</b>	11.0 - 21.0	pmol/L
<b>FREE T3</b>	<b>3.3</b>	3.1 - 6.0	pmol/L
<b>Reverse T3</b>	<b>612.0 *H</b>	230.0 - 540.0	pmol/L
<b>FT3 : Reverse T3 Ratio ( X 100)</b>	<b>0.539 *L</b>	1.200 - 2.200	



(\*) Result outside normal reference range

(H) Result is above upper limit of reference range (L) Result is below lower limit of reference range



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### THYROID TEST COMMENTS

There are differing views regarding reference ranges of TSH. New reference ranges using populations without thyroid disease suggest that the optimal TSH range for thyroid function should be 0.5-2.0mIU/L. However it should be noted that this laboratory shall continue to report a normal reference range of 0.5 - 5.0 mIU/L.

#### LOW TSH LEVEL

Low levels of TSH are found in individuals with hyperthyroidism (usually associated with a raised FT3 or FT4) and may also occur in hypopituitarism (associated with a low FT4 level).

Low levels of TSH may occur in patients on thyroxine. Treatment is indicated. This is especially important for pregnant women or those trying to get pregnant.

#### Treatment considerations:

Shankhapushpi (*Convolvulus pluricalis*, *Convolvulus microphyllus*)

Bugleweed (*Lycopus virginicus*)

L-carnitine

Consume high levels of goitrogenic foods; broccoli, cabbage, soy, corn, sweet potatoes, lima beans, cassava (tapioca), swede (rutabaga), millet and peanuts.

"

#### FREE T4 and FREE T3

Free T4 and T3 represent bioactive portion of thyroid hormone. The test results can identify functional or subclinical hyper- and hypothyroidism and overt hypo- and hyperthyroidism. T4 converts to active T3 or inactive rT3.

ReverseT3 levels can increase when peripheral conversion of T4 to active T3 is impaired. Peripheral thyroid imbalances may arise from nutrient deficiencies, heavy metal exposure, adrenal stress, enzyme deficiencies, and chronic illnesses.

#### HIGH Reverse T3 LEVEL:

A high or high normal rT3 level may inhibit the action of T3.

Elevated rT3 may therefore lead to symptoms of hypothyroidism even if levels of TSH, T4 & T3 are adequate.

#### Treatment Considerations:

Consider T3 therapy

Assess and treat iron, selenium, iodine and zinc

Assess and treat high free radicals

Consider therapies that will reduce physical and mental stress or cortisol levels (e.g. Phosphatidylserine)

Consider implementing the following dietary and lifestyle factors:

- Reduce excessive exercise
- Increase calorie intake if patient is on a calorie restrictive diet

Elevated rT3 may be associated with:

- Acute Illness
- Hyperproduction of glucocorticoids
- Genetic polymorphisms of Type II Deiodinase
- Illness
- Diabetes
- Toxic metal exposure
- Cytokines
- Opioid Drugs
- Synthetic glucocorticoids (e.g. Prednisone)

### THYROID AUTO-Abs

THYROID PEROXIDASE Ab.

**102 \*H** < 35.0

IU/mL



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(H) Result is above upper limit of reference range



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### ANTITHYROGLOBULIN Ab.

**274 \*H** < 115

IU/mL



### TSH RECEPTOR AB

**<1.0** 0.0 - 1.5

### THYROID Ab COMMENTS

#### Thyroglobulin Antibodies (ATG Ab)

Thyroglobulin is a large protein from which the thyroid hormones T3 and T4 are produced.

#### Thyroid Peroxide Antibodies (TPO Ab)

Thyroid peroxidase (TPO) is responsible for the iodination of tyrosine residues in the thyroglobulin molecule.

LOW Titres      No treatment required.

#### HIGH Titres      Interpretation:

Elevated levels of thyroid antibodies may inhibit the function of TSH or T4

Elevated thyroid antibodies may therefore lead to symptoms of either hypothyroidism or hyperthyroidism, even if levels of TSH, T4 & T3 are optimal.

#### Treatment Considerations:

Selenium and omega 3 supplementation

Antioxidant supplementation

A gluten free and/or dairy free diet

Nutrients that support the immune system

Assess patient for celiac disease

Assess and treat leaky gut

Assess and treat liver detoxification

Assess and treat heavy metal levels

Assess and treat food sensitivities & allergies

Supplement with low dose cortisol (Hydrocortisone) and/or DHEA daily.

#### THYROID ANTIBODIES COMMENT:

Raised thyroid antibodies are associated with an increased risk of developing thyroid disease, including during the post partum period.

Anti-Thyroid Peroxidase antibody (anti-TPO Ab, also known as anti-microsomal Ab) is elevated in autoimmune thyroid disease and post partum thyroiditis.

Anti-Tg (anti-Thyroglobulin Abs) are elevated less frequently than anti-TPO in auto-immune thyroid disease, but there are some cases which are anti-TPO negative and anti-TG positive.

Incidence of thyroid Abs	a-TPO	a-TG
Hashimoto's thyroiditis	>95%	85%
Graves' disease	>80%	30%
Post-partum thyroiditis	>80%	N/A
Normal population	<10%	10%

Tests ordered: TFA, THAB, TSHA

(\*) Result outside normal reference range

(H) Result is above upper limit of reference rang