

THYROTAIN



CLINICAL APPLICATIONS

- Helps to Maintain Healthy Thyroid Function
- Promotes the Synthesis of Thyroid Hormones
- Supports a Healthy Metabolism
- Helps Improve Stress Response

ENDOCRINE HEALTH

Thyrotain is a unique formulation that provides a blend of nutrients and botanicals that work synergistically to support thyroid health. Thyrotain includes iodine, an essential trace element recognized for its traditional role in thyroid hormone synthesis, sourced from potassium iodide and kelp. Both iodine and the amino acid L-tyrosine are essential components of T4 and T3 thyroid hormones. Ashwagandha and bladderwrack leaf, long used by herbalists for thyroid balance, are also added to the formula for optimal thyroid support and improved stress response.

Overview

The thyroid gland, located in the neck (below the Adam's apple) produces hormones that regulate cell metabolism: thyroxine (T4) and triiodothyronine (T3). Thyroxine is converted into the more active hormone, T3. Thyroid hormones regulate metabolism within every cell of the body. Optimal balance of thyroid hormone production is required to help numerous body functions including: the body's metabolic rate, growth and development, reproduction, hormone production, brain function, as well as psychological and cardiovascular health. ^[1]

Common indications of thyroid hormone imbalance include:

- Weight gain
- Compromised food
- Fatigue
- Low libido
- Lipid balance
- Immune challenges
- Dry skin and hair
- Hormonal imbalance
- Cold intolerance
- Poor digestion
- Constipation
- Cold hands and feet

Lifestyle factors, environmental toxins and nutrient deficiencies can negatively impact thyroid hormone production. A number of nutrients are required to produce thyroid hormones and to help convert T4 into the more active form, T3. These nutrients include L-tyrosine and iodine. A deficiency in any of these nutrients can cause the thyroid to under-function. In addition, long term stress can lead to increased production of the adrenal hormone, cortisol. Excessive levels of cortisol can block the conversion of T4 to T3. Heavy metals such as mercury, lead and cadmium, as well as other chemical contaminants, can also block the conversion of T4 to T3. Conversely, exercise positively impacts the thyroid gland by stimulating hormone secretion and increasing tissue sensitivity to thyroid hormone. ^[1]

Deficiency[†]

Dietary intake of iodine can vary widely. Populations consuming large amounts of seaweed may consume 50-80 mg of iodine daily, while in other cases, the iodine content of food depends upon the presence of iodine in the soil in which food is grown. ^[2] Table salt is often fortified with iodine to help meet minimum intake requirements. In those who consume little iodine through the diet, such as remote inland areas where no marine foods are eaten, iodine deficiency can be more common. Iodine deficiency results in inadequate production of T4 and T3. ^[3] Iodine deficient glands contain increased amounts of malondialdehyde, a product of lipid peroxidation which indicates increased free radical stress in the body. ^[4]

[†] These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.

Iodine†

Iodine is an essential trace mineral and is necessary for the synthesis of thyroid hormones. In addition, iodine plays a significant role in maintaining breast health as well as adrenal and immune function. When taken orally, iodine preparations are converted from iodine to iodide. The thyroid gland absorbs iodine from the blood, incorporating it into thyroid hormones. T4 is converted in target tissues to T3 via enzymes called deiodinases. In addition to supporting thyroid hormone production, research is showing that iodine acts as an antioxidant supporting healthy thyroid and protecting a variety of tissues including mammary tissue, eyes, and the gastrointestinal lining.^[5] Iodide acts as an antioxidant by donating electrons and neutralizing oxygen free radicals.^[6] Iodine has also been shown to normalize elevated adrenal hormone excretion related to the stress response.^[7]

L-Tyrosine†

L-tyrosine is an amino acid which is found in protein-containing foods. The thyroid gland combines L-tyrosine and iodine in order to produce thyroid hormones. L-tyrosine can be synthesized in the body from the amino acid phenylalanine, however, stress conditions such as getting inadequate sleep, prolonged athletic activity, and mental and emotional stress can reduce the body's ability to convert phenylalanine to tyrosine. Supplementation with tyrosine can help support thyroid function as well other tyrosine- requiring pathways in the body which includes the synthesis of mood regulating chemicals, such as dopamine, norepinephrine and epinephrine.

Ashwagandha†

Ashwagandha (*Withania somnifera*) has been used in Aryurvedic and indigenous medical systems for over 3,000 years. Ashwagandha has been used for its far reaching effects which include supporting thyroid health, as well as improving the stress response, immune strength, antioxidant pathways, healthy liver function and sleep cycle regulation.^[8] Animal studies have demonstrated ashwagandha's thyroid-stimulating effects, specifically helping to maintain healthy levels of T4 while supporting cellular antioxidant systems. Another study found that ashwagandha root extract, given daily for 20 days, supported T3 and T4 synthesis and maintained thyroid health by promoting free radical scavenging activity.^[9,10] Ashwagandha has also been shown to improve the stress response and balance cortisol excretion, which is crucial for supporting T4 to T3 conversion.^[11]

Bladderwrack Leaf†

Often known as kelp, bladderwrack, or *Fucus vesiculosus*, has been used as food as well as for medicine for centuries, particularly in Asian cultures, and has a long history of use for

thyroid support. Kelp includes high levels of iodine as well as the flavonoid fucoxanthin and is reported to have the highest antioxidant activity of the edible seaweeds.^[12]

Directions

1 capsule per day or as recommended by your health care professional.

Does Not Contain

Gluten, yeast, corn, artificial colors, artificial sweeteners, or preservatives.

Cautions

Do not consume this product if you are pregnant or nursing. Consult your physician for further information.

Supplement Facts^{v1}

Serving Size 1 Capsule
Servings Per Container 60

1 capsule contains	Amount Per Serving	% Daily Value
Iodine (as Potassium Iodide, Kelp)	150 mcg	100%
L-Tyrosine USP	400 mg	*
Ashwagandha Root Extract (Standardized to contain 1.5% Withanolides)	75 mg	*
Bladderwrack Leaf	40 mg	*

* Daily Value not established

ID# 620060 60 Capsules

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