

Thyrommune™

Myo-inositol and Selenomethionine



By David M. Brady, ND, DACBN, IFMCP, FACN and Colleen Ambrose, ND, MAT

This information is provided as a medical and scientific educational resource for the use of physicians and other licensed health-care practitioners ("Practitioners"). This information is intended for Practitioners to use as a basis for determining whether to recommend these products to their patients. All recommendations regarding protocols, dosing, prescribing, and/or usage instructions should be tailored to the individual needs of the patient considering their medical history and concomitant therapies. This information is not intended for use by consumers.

Thyrommune™ is uniquely formulated to support optimal thyroid function, healthy hormone balance, and a healthy immune system.* The thyroid gland plays an important role in energy metabolism and the physiology of many body systems. Research indicates that certain nutrients may support thyroid tissue function, a healthy immune response, and balanced hormones.*

Thyrommune™ features selenomethionine, a bioavailable form of the mineral selenium. Selenium is an essential trace mineral that supports antioxidant status and thyroid function.* It is required for proper functioning of thyroid hormones at the cellular level and it has been shown in studies to support thyroid and immune health.* This formula also contains myo-inositol, which exhibits the ability to help regulate the activity of certain hormones related to thyroid function.*

Thyrommune™ contains a targeted blend of myo-inositol and selenium that work synergistically to support thyroid function, healthy hormone balance, a healthy immune response, and overall metabolic health.* Each 1-capsule serving delivers a clinically useful amount of 600 mg of myo-inositol and 83 mcg of selenomethionine.

Ingredient Highlights

- Provides 600 mg of myo-inositol and 83 mcg of selenium per 1-capsule serving
- Features selenomethionine — a bioavailable form of selenium
- Clinically relevant amounts of active ingredients used
- Gluten-free, dairy-free, soy-free, and non-GMO

Selenium

Thyrommune™ features selenomethionine, a form of selenium typically found in vegetable sources that has been shown to have the highest bioavailability and lowest potential for toxicity when compared to other selenium analogues.^{1,2} Selenium is an essential trace mineral that supports antioxidant status and thyroid function.¹ Selenium is required for the proper functioning of the enzymes involved in the conversion of inactive thyroid hormone, thyroxine (T4), to the metabolically active form, triiodothyronine (T3).¹

The thyroid gland contains the highest amount of selenium of any organ in the human body.¹ Selenium is incorporated in the thyroid gland as selenoproteins. Certain selenoproteins exhibit behavior to support the removal of the reactive oxygen species (ROS) produced as a byproduct of the production of thyroid hormones.¹ ROS are also involved in the initial stages of thyroid hormone production, including iodide oxidation.³ Therefore, the thyroid gland can be particularly vulnerable to oxidative damage.³ The selenoprotein-dependent phospholipid, glutathione peroxidase-4 (GPx4), has been shown to regulate apoptosis and reduce hydroperoxides in the thyroid gland. Thioredoxin reductases (TXNRDs) are another class of selenoproteins. TXNRDs are responsible for modulating oxidoreductase activity and cytosolic TXNRDs are enzymes that exhibit antioxidant activity at the cellular level.¹

Selenium is also critical to the metabolism and conversion of thyroid hormones.¹ Selenoproteins, such as iodothyronine deiodinases (DIOs), help to convert T4 to T3, the biologically active thyroid hormone.¹ DIOs are also responsible for intracellular production of T3 from T4 and the production of reverse T3 (rT3).¹ Selenium may also support a normal immune response; it has been shown to modulate the production of certain interferon-gamma-inducible cytokines, including CXCL9, CXCL10, and CXCL11, which may all be associated with thyroid-related autoimmunity.⁴

Clinical studies indicate that supplementation with selenium may decrease levels of antibodies associated with autoimmune thyroiditis. One study investigated the efficacy of selenomethionine supplementation in 88 women with autoimmune thyroiditis for 9 months. In the treatment group, participants received 200 ug of selenomethionine daily; serum concentrations of anti-thyroperoxidase (TPOAb) were shown to decrease 26.6% after 3 months of treatment.¹ A similar study reported significant reductions in TPOAb in patients receiving selenium supplementation for 6 months. Of note, levels of TPOAb increased in study participants with the discontinuation of selenium supplementation.¹

Fetal accumulation of selenium occurs during pregnancy, often causing selenium depletion in pregnancy.⁵ A clinical trial assessed the impact of selenium supplementation during and after pregnancy.¹ More than 2,000 participants who were pregnant were screened; from this group of participants, 169 were positive for TPOAb and were randomized into this

Benefits*

- Supports healthy thyroid function
- Healthy hormone balance support
- Immune health support
- Supports metabolic health

Supplement Facts

Serving Size 1 capsule		
Amount Per Serving	% Daily Value	
Selenium (as Selenomethionine)	83 mcg	151%
Inositol (as myo-inositol)	600 mg	*

*Daily Value not established.

Other Ingredients: Cellulose (capsule), microcrystalline cellulose, vegetable stearate, silicon dioxide.

TM560

placebo-controlled study. The treatment group received 200 ug of selenomethionine daily during pregnancy and postpartum. Study results indicate that the treatment group experienced a decrease in the progression of autoimmune thyroiditis, a decrease in the incidence of postpartum thyroid dysfunction, a reduction of TPOAb levels, and a decrease for the risk of developing hypothyroidism.¹

Myo-inositol

Thyromune™ also features myo-inositol (MYO), a sugar alcohol that has been shown to support many aspects of metabolic health.⁴ MYO is the most abundant form of inositol, a polyol containing six hydroxyl groups, found in eukaryotic cells.⁶ Inositol and its derivatives support the structure and proliferation of cells and the signaling of many molecules, including the thyroid-stimulating hormone (TSH).⁴

MYO has been shown in studies to support thyroid function and a normal immune response.⁶ During the production of thyroid hormones, MYO acts as a second messenger in the phospholipase C-dependent inositol phosphate calcium/DAG pathway.⁶ This pathway is critical to the generation of the hydrogen peroxide used in thyroid hormone biosynthesis and iodine organification.⁶ MYO is a precursor to many molecules involved in signal transduction pathways related to certain hormones, including TSH.⁶

Serum TSH levels and intracellular MYO concentrations have been correlated in laboratory studies. Thyrocytes have been shown to accumulate MYO with the increase of TSH levels.⁶ Altered metabolism of inositol has been shown to impact the biosynthesis, storage, and secretion of thyroid hormones.⁶ When compared to healthy individuals, metabolic demand was shown to be increased in individuals diagnosed with hypothyroidism.⁶

The synergistic effects between MYO and selenium have been researched in clinical studies. A randomized trial explored the efficacy of supplementation with 83 mcg of selenium (Se) as compared to 600 mg of MYO plus 83 mcg of selenium (MYO+Se). The trial involved 48 participants with autoimmune-related subclinical hypothyroidism, randomized to either the MYO+Se group or the Se group for 6 months. After the treatment period, the MYO+Se group experienced a 31% decrease in TSH, 44% decrease in TPOAb, and 31% decrease in thyroglobulin antibodies (TgAb).⁶ Although the Se-only group showed improvements in thyroid antibodies levels, there was no change in TSH levels observed.⁶ A similar study with the same treatment levels of MYO+Se reported significant improvements in TSH and quality of life.⁶

A clinical study involving 168 individuals with hypothyroidism reported improvements in TSH, TPOAb, TgAb, and free T4 in the MYO+Se group as compared to Se alone.⁶ A study involving pregnant participants with a TSH between 1.6 and 2.5 U/mL explored the efficacy of daily supplementation with MYO+Se from the first through the third trimesters of their pregnancies. The study results showed a stabilization of TSH, free T4, and free T3. The authors reported increased prevention of subclinical hypothyroidism.⁶

Recommended Use: Take 1 capsule per day with a meal or as directed by your health-care practitioner.

For a list of references cited in this document, please visit:

<https://www.designsforhealth.com/api/library-assets/literature-reference---thyromune-tech-sheet-references>

***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.**

To contact Designs for Health, please call us at (860) 623-6314, or visit us on the web at www.designsforhealth.com.