

Guggulsterones



Natural Support for Cholesterol Health

Today's lifestyle, with its high-fat, processed food diet, lack of exercise, and high stress levels, leaves you at risk for imbalanced cholesterol levels. Source Naturals is committed to your optimal health and longevity. That's why we developed GUGGULSTERONES.

GUGGULSTERONES is a natural solution to help keep your cholesterol levels in the normal range. Guggulsterones are compounds found in guggul, the resin of a shrub used in traditional Ayurvedic herbalism to support a healthy heart. Research shows guggulsterones help maintain cholesterol levels in the normal range by helping to promote bile production, which removes cholesterol from the blood. They also boost thyroid activity, which supports cholesterol regulation by the liver. Source Naturals offers you natural guggul extract, standardized to provide a clinically effective daily dosage.

As one of the most important botanicals to support cardiovascular health, GUGGULSTERONES is at the heart of Source Naturals' commitment to empower people to take charge of their own health.



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Cholesterol, Guggulsterones and Bile Production

Much of the cholesterol made by your liver is utilized to create bile, a substance used in digestion to emulsify fats. Because excess cholesterol and triglycerides are excreted from our bodies in the form of bile, it is important to support the liver's bile-producing mechanism.

Research shows that certain guggul compounds—guggulsterones—help maintain cholesterol levels in the normal range and act at the farnesoid X receptor (FXR) to promote bile production. Guggulsterones appear to be farnesoid X receptor (FXR) antagonists. FXR is a bile acid receptor. If FXR is activated, this results in down-regulation of the amount of bile acids produced by the liver. Bile is made out of cholesterol, which gets used up when bile is produced. When bile levels are high, the production of more bile is slowed through negative feedback of the FXR pathway. As steroids, guggulsterones can enter the nuclei of liver cells and block FXR, which results in more bile production.

Guggulsterones and Thyroid Stimulation

Guggulsterones have been shown to stimulate thyroid activity in animal studies. This is important because 90% of individuals with sluggish thyroid glands also experience challenges to healthy cholesterol levels.

Since the thyroid regulates the metabolic rate of many organs, when thyroid hormone levels are too low, the body's overall metabolic rate declines. This impairs the liver's ability to clear cholesterol from the bloodstream.

The liver regulates cholesterol levels in blood as well as producing bile, and it contains thyroid hormone receptors. This is how the thyroid gland controls the metabolic rate of the liver. Several studies have shown that guggul supports normal cholesterol levels, including LDL, serum triglycerides, and HDL

levels. Because normal levels of serum lipids, including cholesterol, are supported by increased circulating thyroid hormones, it is believed guggul works by stimulating the thyroid gland, in addition to its effects on bile production.

Clinically Effective Dosage

According to several clinical studies, the amount of guggulsterones used to maintain normal cholesterol levels is 75 mg per day, when taken with a diet low in saturated fats. This is the daily dose delivered by SOURCE NATURALS GUGGULSTERONES.

A Wellness Revolution in Cardiovascular Care

At a time when our cardiovascular health faces numerous lifestyle challenges, research into the remarkable heart-supportive properties of the plant world is critical. Source Naturals is your connection to this research, dedicated to quickly bringing you nutritional benefits now available only through the natural products marketplace.

References

- American Association of Clinical Endocrinologists. The voice of clinical endocrinology. understanding the thyroid-cholesterol connection [6/7/04]. Available online: <http://www.aace.com/pub/tam2000/connection.php>
- Satyavati, G.V. Guggulipid: a promising hypolipidaemic agent from gum guggul. *Econ & Med Plant Res* (1991) 5: 47-80.
- Schauss, Munson. Guggul: Chemistry, Toxicology and Efficacy of a Hypolipidemic and Hypocholesterolemic Agent. *Nat Med J* (1999) 2 (3): 7-11.
- Tripathi, Malhotra. Thyroid stimulating action of Z-guggulsterone obtained from *Commiphora mukul*. *Plant Med* (1984) 78-80.
- Tripathi, Upadhyay. A clinical trial of *Commiphora mukul* in the patients of ischaemic heart disease. *J Mol & Cell Cardiol* (1978) 10(1): 124.
- Urizar, N. A natural product that lowers cholesterol as an antagonist ligand for the farnesoid X receptor. *Science* 2002; 296:5573:1703-1706.



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