

# TOTAL LIPOTROPIC

**Ingredients:** Each tablet supplies: Policosanol Extract 90% 5mg, Cordyceps 75mg, Beta Glucan 50mg, Beta Sitosterol 45mg, Inositol Hexanicotinate 15mg, Guggulipid 25mg, Apple Pectin 100mg, Deodorized Garlic (bulb) 50mg.

**Supportive Function:** Supports the ability of the body to regulate lipid/cholesterol balance.

**When is lipid/cholesterol support helpful?** High blood cholesterol levels increase the risk for heart disease. Maintaining low levels of lipids/cholesterol is a good idea for preventive maintenance of a healthy heart.

**Clinical Applications/Research:** High cholesterol levels are known to be a risk factor for heart disease. Low-density lipoprotein cholesterol, or LDL as we call it, is known as the “bad cholesterol”. Maintaining good ratios between the “bad cholesterol” and the “good cholesterol”, or high-density lipoprotein cholesterol (HDL) is necessary for a healthy balance.

Heart disease is the number one cause of death in the United States and in Europe. Americans suffer more than 1.5 million heart attacks each year and more than 1/3 die on their first attack.

Even though heart disease causes over 40% of all deaths in the USA, responsible for over 550,000 heart attack deaths and 500,000 strokes each year in the United States alone, heart disease is believed to be one of the most preventable of chronic conditions.

When deposits of cholesterol, fat, and calcium form in the major arteries (atherosclerosis) supplying the heart, blood flow to the heart can become restricted and trigger heart attacks. Atherosclerosis in arteries supplying blood to legs causes a condition called intermittent claudication. People with elevated cholesterol levels are at much higher risk of developing atherosclerosis, hardening of the arteries, than people with low cholesterol levels (Lininger et al, 1998: 11).

Most doctors believe that total cholesterol levels should stay under 200 mg/dl. As levels fall below 200, heart disease risks decline. The balance of "bad" LDL cholesterol to "good" HDL cholesterol is thought to be more important than total cholesterol.

Overweight conditions and diabetes are other risk factors increasing the likelihood of heart disease.

Favorable dietary changes: Minimize high fat intake from dairy and meat. Avoid refined sugars and hydrogenated fats, especially margarine. Limit alcohol intake (no more than 1 to 2 drinks per day). Drink only paper-filtered coffee. Eat smaller, more frequent meals, consisting of more fish, more vegetables, and other high fiber foods such as whole grains (Lininger et al, 1998: 62-3).

Many nutrients have a favorable, natural effect in maintaining healthy and balanced cholesterol levels.

**Policosanol** is a purified mixture of primary alcohol's isolated from sugar-cane wax or beeswax that helps prevent LDL oxidation. It helps lower total and LDL cholesterol by inhibiting cholesterol synthesis and helps reduce the cholesterol content of liver, heart, and fatty tissues. Policosanol helps reduce platelet aggregation by altering prostaglandin

synthesis. Policosanol also helps prevent and reverse atherosclerotic lesions and thrombosis. In diabetic patients, policosanol favorably increased ratios of good HDL cholesterol to LDL cholesterol. In a study of patients with intermittent claudication, policosanol helped increase walking distance and reduce lower-limb symptoms of claudication. Policosanol also has anti-ischemic effects that may benefit patients with cerebral vascular disorders. *Suggested cautions*: high doses should be used cautiously by patients also taking propranolol, nifedipine, other antihypertensive agents, anticoagulant, or antiplatelet medications. Use cautiously in patients taking acetyl-cholinesterase inhibitors and cholinomimetic agents, since policosanol may increase the release of acetylcholine at the neuromuscular junction.

**Apple pectin** contains both soluble and insoluble fiber; it aids in candida elimination, decreases cholesterol and increases metal detoxification. In addition to apple pectin's ability to bind water and toxins, slow food absorption, and decrease fat absorption, it has the ability to, "protect gastric mucosa by strengthening the mucous-phospholipid layer" (Scand J Gastroenterol 1993; 28(10): 894-9.) and inhibit ulcer formation (Nippon Shokakibyō Gakkai Zasshi 1991; 88(10): 2636-43) In other words, apple pectin is a great nutrient for working on leaky gut! By slowing the absorption of food, pectin has proven helpful to diabetics. In Russia, they have a drink called, "Anti-cholest" comprised solely of apple pectin.

**Deodorized Garlic** has been shown to lower cholesterol (Pharmacotherapy. 1993; 13(4):406-407.) and help in digestion (Balch & Balch, *Prescription for Nutritional Healing*, 2<sup>nd</sup> Edition, New York: Avery, 1997:54). Garlic contains an active ingredient which is a sulphur-containing amino acid allicin (5-allyl-L-Cysteine sulfoxide). It also exhibits significant triglyceride-reducing properties (Arzneim. 1993;43(9):978-81; J Postgrad Med 1991;37(3):132-5.) More than 32 human studies demonstrating the lipid-lowering effects of garlic have been conducted since 1975 (Foster S: Herbal medicine: An introduction for pharmacists. NARD J 10:127-144, 1996. 3. Brown DJ, Foster S: Phytotherapy: Herbal medicine meets clinical science: Part II. America's Pharmacist 6:31-48, 1997.) Two meta-analyses have examined the major clinical trials of garlic supplementation for high cholesterol, and they both reported favorable effects on cholesterol levels, both LDL and HDL (Foster and Brown, *ibid.*)

It is thought that one of the mechanisms involved in lowering cholesterol is the ingredient nicotinic acid, which plays a major role in inhibiting HMG-CoA reductase activity (Lipids 1993; 28(7): 613-19.) Recent evidence indicates that a person's susceptibility to the oxidation of cholesterol and LDL may be more important than the total cholesterol level, and this is one reason antioxidants are so important in prevention of heart disease. Garlic, being an antioxidant, was shown to lower the LDL oxidation by 34% in a garlic-treated group compared to controls (Lipids 1993; 28:475-477.) One of garlic's components, methyl allyl trisulfide, lowers blood pressure by dilating blood vessel walls. Garlic helps thin blood by inhibiting platelet aggregation, reducing the risk of blood clotting and aiding in the prevention of heart attacks.

**Beta Glucan** consist of polysaccharides that make up part of the insoluble fiber of oat bran that help it to its claim of fame on cholesterol maintenance. The beta attachment is less likely to be broken down than an alpha attachment in the intestines; hence it is not as absorbable. Fiber binds to fat, cholesterol, and cholesterol containing substances and helps remove them from the body (Ripsin, CM, et al, "Oat products and lipid lowering--a meta-analysis," *JAMA* 1992; (267): 3317-25).

**Beta Sitosterol** boosts the effects of isoflavones (*J of Urology* 1995; (154): 391; *Cancer Res* 1991; (51): 3445), which are known to have a favorable effect on cholesterol. Isoflavones are

special bioflavonoids that block the sorbitol pathway that is linked with oxidative damage in diabetes. They are also known as natural blood thinners that protect blood vessels and reduce platelet aggregation. As antioxidants, bioflavonoids protect cholesterol from oxidative damage. High cholesterol levels in themselves may not be the problem they were first thought to be, but oxidized LDL cholesterol may be the greater issue (Kostner et al, "The interaction of human plasma low density lipoproteins with glucosaminoglycans: influence of the chemical composition," *Lipids* Jan. 1985; 20 (1): 24-28, Lininger et al, *The Natural Pharmacy*, Rocklin, CA: Prima Health, 1998:140-1; Potter, SM, "Overview of the proposed mechanisms for the hypo-cholesterolemic effect of soy," *J Nutri* 1995; 606S-611S).

**Inositol Hexanicotinate** appears to be a safer form of taking niacin without the side effects of the niacin form of vitamin B-3 (Lininger et al, *ibid*, 1998:64). Large dosages of niacin-B-3 have been shown to lower cholesterol (Brown, NV, "Niacin for lipid disorders," *Postgrad Med* 1995; (98): 185-93). The Inositol Hexanicotinate form of B-3 has the same effects as niacin in lowering serum cholesterol without side-effects (Head, KA, "Inositol hexaniacinate: a safer alternative to niacin," *Alt Med Rev* 1996; (1): 176-84.; Murray, M. "Lipid lowering drugs vs. inositol hexaniacinate," *Am J Natural Med* 1995; (2): 9-12).

**Fiber** can naturally bind to bile acids and help in the removal of these cholesterol-containing substances from the body. When cholesterol is removed from the body, the body makes more. However, there are also natural substances, such as garlic and policosanol, which can affect the natural regulation of the liver enzyme that regulates cholesterol production. There are many types of fiber, both soluble and insoluble. Both types of fiber are found in apple pectin. Soluble fiber can regulate blood sugar by decreasing gastric emptying and glucose uptake. This reduces insulin response and fat storage. The glycemic index studies of Jenkins et al. (among others) have proven that fiber has an important place in the diet of diabetics (*Adv Nutr Res* 1984; 6:169--202.) (Larson, D. *Mayo Clinic Family Health Book*, 1990. William Morrow & Co. Inc. NY, NY. p. 635.) By lowering fat absorption, soluble fiber also has a favorable effect on blood cholesterol. Insoluble fiber, such as the cellulose found in plant cell walls, has an effect mostly by binding to cholesterol, toxins, and carcinogenic secondary bile acids and drawing them out of the body. Both types of fibers can speed fecal transit time by adding bulk and holding water. Additionally, the delayed passage rate induced by fiber results in greater absorption of some of the amino acids (*J Nutr* 1994; 124(6): 833-41.) Apple pectin contains soluble and insoluble fiber, whereas beta glucan is a good insoluble fiber.

**Testimonials/Nutrient Tidbits: The wife of a chiropractor reports...** My husband's blood pressure was so high he was on 6 meds. After one week on Total Lipotropic, he could cut out one drug entirely and could cut back on another drastically because the blood pressure was lowered (finally!) (Amy Hare, North Carolina).

**A doctor reports...** Total Lipotropic is great support... my assistant and I both took it and within weeks we saw a difference in our cholesterol levels. (Grant Watkins, D.C. Aurora, CO.)

**Suggested Dosage:** 1-2 tablets 3 times daily or as directed

**Size:** 90 Tablets

**Vegetarian:** Yes

**Contraindications:** High doses should be used cautiously by patients also taking propranolol, nifedipine, other antihypertensive agents, anticoagulant/antiplatelet medications or cholesterol medications. Use cautiously in patients taking acetylcholinesterase inhibitors and cholinomimetic agents, since policosanol may increase the release of acetylcholine at the neuromuscular junction.