



## Sterol 117<sup>™</sup>

Serving Size 1 capsule (400 mg) Servings Per Container 60

	Amount Per Serving
Total phytosterols Plant phytosterols Beta sitosterols Cellasate™ Enzogenol™	300 mg 183 mg 117 mg 50 mg 20 mg
OTHER INGREDIENTS: Calcium carbonate	
SUGGESTED USE: As a dietary supplement, adults can take one capsule a day, ON AN EMPTY STOMACH, ONE HALF HOUR TO ONE HOUR BEFORE A MEAL, or as directed by your healthcare professional. As fat inhibits the absorption of beta-sitosterol, capsules should be taken with juice or water and NOT milk or drinks containing fat.	

\*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. Patent# 2,407,429

## **REFERENCES:**

1. Berges RR et al. Randomised, placebocontrolled, double-blind clinical trial of betasitosterol in patients with benign prostatic hyperplasia. Beta-sitosterol Study Group. *Lancet.* 1995;345(8964):1529-32.

2. Bouic PJD et al. Beta-sitosterol and beta-sitosterol glycoside stimulate human peripheral blood lymphocyte proliferation: implications for their use as an immunomodulatory vitamin combination. *Int J Immunopharmacol.* 1996:18:693-700.

 Devaraj, et al. Reduced-calorie orange juice beverage with plant sterols lowers C-reactive protein concentrations and improves the lipid profile in human volunteers. *Am J Clin Nutr*. 2006;84:756-761.
Hendriks HF, et al. Spreads enriched with three different levels of vegetable oil sterols and the degree of cholesterol lowering in normocholesterolaemic and mildly hypercholesterolaemic subjects. *Eur J Clin Nutr*. 1999;53:319-27. STEROL 117<sup>™</sup> PLANT STEROLS WITH ANTIOXIDANTS AND A POLYPEPTIDE/ ESSENTIAL FATTY ACID BLEND TO SUPPORT IMMUNE FUNCTION, BLOOD LIPID LEVELS, AND PROSTATE HEALTH\*

- Promotes a balanced immune system and T1/T2 helper cell ratio\*
- Supports maintenance of healthy cholesterol levels\*
- May support peak urinary flow and reduction of residual volume\*
- May assist in the management of seasonal allergy symptoms\*

Research by Karl Pegel from the University of Natal Republic of South Africa reports that a quality diet should provide 200-300 mg of plant sterols per day. Based on the far-reaching benefits of plant sterols, scientists have concluded that supplementation is necessary to achieve the recommended daily intake.\*

ENTERIC-COATED capsules protect sterols from being destroyed by harsh stomach acids. Sterol 117<sup>™</sup> capsules are enteric coated with a seaweed derivative to allow the capsules to pass safely and directly into the small intestine.\*

**ENZOGENOL<sup>™</sup>** has been shown to reduce oxidative damage to proteins and DNA in the body. It is in the highest tier of antioxidants available and contains the highest molecular weight of oligomeric proanthocyanidin complexes (OPC) in the industry. This ingredient is extracted without the use of chemical solvents, using only water in its processing.\*

**CELLASATE™** is a proprietary blend of proteins, amino acids, and essential fatty acids (EFA) from seed extracts with short-chain peptides and proline-rich polypeptides. This unique blend increases the cellular uptake of the phytosterols and antioxidants in Sterol 117<sup>™</sup>.\*

**IMMUNE SYSTEM:** Phytosterols have been shown to have modulating activity on an over-performing immune system. In a pilot clinical trial, Sterol 117<sup>™</sup> was shown to significantly decrease interleukin-6 (IL-6) levels by 25% (vs. 10% in the control group). IL-6 is an inflammatory cytokine that has been linked to disease progression in cardiovascular disease, rheumatoid arthritis, and dementia.



## **REFERENCES:**

5. Jensen GS. Immune modulation by Sterol 117™. Preliminary study, NIS Labs, August 2010.

 Kawai M, et al. Flavonoids and related compounds as anti-allergic substances. *Allergol Int.* 2007;56:113-123.

7. Kidd P. Th1/Th2 balance: the hypothesis, its limitations, and implications for health and disease. *Altern Med Rev.* 2003;8(3):223-46.

8. Laidlaw M. Pilot study conducted at the University of Guelph, by the Human Nutriceutical Research Unit on the supplement Sterol 117<sup>™</sup>. Pilot Clinical Trial, March 2005.

9. Pegel KH. The importance of sitosterol and sitosterolin in human and animal nutrition. SA J Sci 1997;93:263-268.

10. Senthilmohan ST et al. Effects of flavonoid extract Enzogenol<sup>™</sup> with vitamin C on protein oxidation and DNA damage in older human subjects. Nutr Res 2003;23:1199-1210.

11. Shand et al. Pilot study on the clinical effects of dietary supplementation with Enzogenol<sup>™</sup>, a flavonoid extract of pine bark and vitamin C. *Phytother Res.* 2003;17:490-494.

12. Wilt TJ, MacDonald R, Ishani A. Beta-sitosterol for the treatment of benign prostatic hyperplasia: a systematic review. *BJU Int.* 1999;83(9):976-83.

13. Young, et al. Comparative effects of EnzogenoI™ and vitamin C supplementation versus vitamin C alone on endothelial function and biochemical markers of oxidative stress and inflammation in chronic smokers. *Free Radic Res.* 40:85-94;2006.

\*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.

> Master United States Distributer BioGenesis Nutraceuticals Inc.



## STEROL 117<sup>™</sup> <sup>∰</sup> celt naturals<sup>™</sup>

Studies have also shown the potential to increase T-lymphocyte proliferation by an average of 58%, which may promote the ability of the T-lymphocytes to regulate cellular functions in the body. \*

SEASONAL ALLERGIES AND ASTHMA: Phytosterols have been shown to help decrease histamine release, through a 96% decrease in basophils. Flavonoids like Enzogenol<sup>™</sup> have also been shown to be effective at decreasing allergy symptoms. Histamine can lead to smooth muscle constriction in the bronchioles, producing the clinical symptoms of asthma. In animal studies, treatment with beta-sitosterol, a type of phytosterol, protected against airway inflammation and mediated the inflammatory response that causes asthma.\*

**FIBROMYALGIA/MUSCLE PAIN AND FATIGUE DISORDERS**: Fibromyalgia is thought to be a disease in which the immune system is chronically overactive. The production of IL-6, one of the pro-inflammatory cytokines believed to be involved in the overactivity of the immune system in fibromyalgia, is decreased by Sterol 117<sup>™</sup>. Research shows that Enzogenol<sup>™</sup> also reduces the free radicals that can contribute to the development of muscle pain and fatigue disorders.\*

**PROSTATE:** Plant sterols, and most particularly beta-sitosterol, have been found in numerous studies to decrease symptoms of an enlarged prostate, including statistically significant changes in peak flow and residual volume as compared to a placebo. These symptomatic changes occurred even while the size of the prostate did not change. When one such study was extended to a total of 18 months in length, the beneficial effects of the plant sterol treatment were maintained for the entire length of the study.\*

**CHOLESTEROL AND C-REACTIVE PROTEIN:** Consumption of Sterol 117<sup>™</sup> fifteen minutes prior to a meal may help block the intestinal dietary absorption of cholesterol. Studies have shown that phytosterols may significantly decrease LDL and the LDL/HDL ratio as compared to a placebo. Chronically elevated levels of C-reactive protein (CRP), due to chronic inflammation, may lead to endothelial dysfunction and cardiovascular disease. Plant sterols have been shown to reduce levels of CRP.\*