New research* on the marvelous blueberry reveals that this superfruit is able to turn down genes in your digestive tract that favorably impact the clearance of cholesterol out of your body. Blueberries were also able to turn down the volume on your liver’s production of HMG-CoA reductase (the primary enzyme that makes cholesterol in your body), which is also the target of cholesterol-lowering statin drugs.

In this animal study, six weeks of blueberry anthocyanin supplementation lowered total cholesterol by 6 to 12 percent, with higher doses lowering it the most. As cholesterol comes into your digestive tract via your bile, it is typically reabsorbed and used again. The reason for a high fiber diet is that fiber tends to absorb some of this cholesterol, and help clear it out. In comparison, blueberries help turn down genes in your digestive tract with the net result that less cholesterol is reabsorbed – a finding that is synergistic with increased fiber intake.

Of course, your liver can still make cholesterol to compensate for the digestive clearance, so it is interesting that this study showed that blueberries were also telling the liver not to do that either.

Unlike toxic statin drugs that take a sledgehammer to your liver, nutrients like blueberries are tools to help guide you in the right direction. When you combine cholesterol metabolizing nutrients with a healthy diet and lifestyle (engaging weight loss if you are overweight), then you give your body the opportunity to correct itself. This means cholesterol numbers come down because you are actually healthier.

Statins do not produce health, and are a slow and steady poison when used over the long term.

* See referenced study on the next page (scroll down)

http://www.wellnessresources.com/health/articles/how_blueberries_lower_cholesterol/
Blueberries Influence Gene Signaling to Lower Cholesterol

Study Title:

Blueberry anthocyanins at doses of 0.5 and 1 % lowered plasma cholesterol by increasing fecal excretion of acidic and neutral sterols in hamsters fed a cholesterol-enriched diet.

Study Abstract:

**Purpose:** The present study investigated the underlying mechanism associated with the hypocholesterolemic activity of blueberry anthocyanins by examining its effect on fecal sterol excretion and gene expression of major receptors, enzymes, and transporters involved in cholesterol metabolism.

**Methods:** Hamsters were divided into three groups and fed a 0.1 % cholesterol diet containing 0 % (CTL), 0.5 % (BL), and 1.0 % (BH) blueberry anthocyanins, respectively, for six weeks. Plasma total cholesterol (TC), triacylglycerols (TAG), and non-high-density lipoproteins cholesterol (non-HDL-C) were measured using the enzymatic kits, and the gene expression of transporters, enzymes, and receptors involved in cholesterol absorption and metabolism was quantified using the quantitative PCR. GC analysis was used to quantify hepatic cholesterol and fecal acidic and neutral sterols.

**Results:** Dietary supplementation of 0.5 and 1.0 % blueberry anthocyanins for 6 weeks decreased plasma TC concentration by 6–12 % in a dose-dependent manner. This was accompanied by increasing the excretion of fecal neutral and acidic sterols by 22–29 % and 41–74 %, respectively. Real-time PCR analyses demonstrated that incorporation of blueberry anthocyanins into diet down-regulated the genes of NPC1L1, ACAT-2, MTP, and ABCG 8. In addition, blueberry anthocyanins were also able to down-regulate the gene expression of hepatic HMG-CoA reductase.

**Conclusion:** The cholesterol-lowering activity of blueberry anthocyanins was most likely mediated by enhancing the excretion of sterols accompanied with down-regulation on gene expression of intestinal NPC1L1, ACAT-2, MTP, and ABCG 8.

Study Information: Yintong Liang, Jingnan Chen, Yuanyuan Zuo, Ka Ying Ma, Yue Jiang, Yu Huang and Zhen-Yu Chen. Blueberry anthocyanins at doses of 0.5 and 1 % lowered plasma cholesterol by increasing fecal excretion of acidic and neutral sterols in hamsters fed a cholesterol-enriched diet. European Journal of Nutrition 2012 June School of Life Sciences, The Chinese University of Hong Kong, Shatin, NT, Hong Kong, China.

http://www.wellnessresources.com/studies/bluberrries_influence_gene_signalling_to_lower_cholesterol