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VISCOUS SOLUBLE FIBER COMBINED WITH PHYTOSTEROLS AND POLICOSANOL REDUCES LDL CHOLESTEROL AND INCREASES HDL-CHOLESTEROL IN HYPERCHOLESTEROLEMIA
Peter J.E. Verdegem

ABSTRACT: This pilot study investigates the efficacy of a combination of nutraceuticals in improving lipid levels. The tested product combines viscous soluble fiber with phytosterols, policosanol, and an extract of *Chrysanthemum morifolium*. All four ingredients have been shown to have cholesterol-lowering potential, but all through different biological mechanisms. The test product is the first to combine these four cholesterol-lowering mechanisms in one product. Twenty-five subjects completed an 8-week open label study design. The product was taken twice daily before the main meals. Fasting lipid panels were measured at baseline, 4, and 8 weeks. The total cholesterol levels were reduced 8.2% ($p < 0.05$) after 8 weeks, and 10.7% ($p < 0.01$) in a subgroup of subjects with total cholesterol levels > 200 mg/dL at baseline. LDL-cholesterol was reduced 4.8% ($p < 0.01$) and 24.5% ($p < 0.001$), and 30.6% ($p < 0.00001$) in subgroups of subjects having baseline LDL-cholesterol levels > 130 and > 160 mg/dL, respectively. HDL-cholesterol levels were increased 8.3% ($p < 0.05$). This nutraceutical combination therapy is promising as a first line intervention, and may serve as an adjunct

therapy to pharmaceutical lipid lowering prescription therapy.

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ARE ANTIOXIDANT SUPPLEMENTS EFFECTIVE FOR THE PREVENTION AND TREATMENT OF DISEASE
Rachel Lewis and Brian Lockwood

ABSTRACT: Disease becomes more prevalent as we get older. There are currently many conventional therapies available for treating inflammatory diseases, neurodegenerative diseases, diabetes, cancer, and cardiovascular diseases. However, new therapies are always an exciting prospect. Antioxidants have a potential role in the prevention and treatment of such diseases, due to the increased understanding of the role of free radicals in contributing to their pathogenesis. Although antioxidants are generally regarded as being safe, the toxicity of three selected antioxidants – vitamin E, beta-carotene and lipoic acid, demonstrates the importance of being aware of the potential adverse effects of antioxidants. Toxicity has an important impact on determining the optimum dose of active ingredient within an antioxidant supplement.

[Current Topics in Nutraceutical Research, Volume 5, Number 1, pp. 19-28 \(2007\)](#)

PREBIOTICS AND BOWEL CANCER
Gemma E Walton and Glenn R Gibson

ABSTRACT: Bowel cancer is a growing malignancy, with more than a million annual cases reported worldwide. It has been suggested that there is microbial involvement in onset of the disease and that an altered composition has previously been observed in those suffering from the malignancy, compared to healthy counterparts. The use of prebiotic functional foods to modify the colonic microflora may provide a method of reducing genotoxic potential within the colon, whilst offering protective strategies in the form of metabolites such as butyrate. The following review highlights some of the studies that demonstrate the potential role for prebiotics as protective factors against bowel cancer.

[Current Topics in Nutraceutical Research, Volume 5, Number 1, pp. 29-34 \(2007\)](#)

HEALTH ISSUES OF WHEY PROTEINS: 3. GUT HEALTH PROMOTION
Gertjan Schaafsma

ABSTRACT: This paper reviews the potential of whey protein to promote gut health. The high digestibility and specific amino acid composition of whey protein, as present in whey powder, whey protein concentrate and whey protein isolate, explain why ingestion of whey protein will exert this beneficial effect. The high

true digestibility will reduce the flow of nitrogen from the ileum into the colon and limit the formation by the intestinal flora of nitrogenous compounds that are toxic to the colonic epithelial cells. Whey protein is an excellent source of threonine, S-containing- and branched-chain- essential amino acids (BCAA). Threonine is largely and directly incorporated into intestinal mucins, which protect the intestinal cells and strengthen the barrier function of the gut. Sulfur-containing amino acids serve as precursors of the anti-oxidant compounds glutathione and taurine, which display anti-inflammatory properties. This is important in the prevention and/or reduction of inflammatory bowel disease. Glutamine in whey and glutamine derived from the precursor BCAA serve as substrate for immune competent cells, which are largely present in the gut-associated lymphoid tissue. Other issues relating whey protein to gut health are antimicrobial and anti-viral proteins in whey and peptides with anti-microbial activity that are formed during whey protein digestion.

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GENE EXPRESSIONS IN HUMAN PROSTATE LNCAP XENOGRAPTS: EFFECTS OF ALPHATOCOPHERYL SUCCINATE (α -TOS) AND DIETARY SOYBEAN OIL

Arpita Basu, Michael Bennett, Nat Mills, and Vicky Imrhan

ABSTRACT: Alpha-tocopheryl succinate (α -TOS) inhibits human prostate cancer growth in vitro. This study aims to assess similar results in vivo. BALB/c nude mice (8 weeks old, n = 42) were subcutaneously inoculated with 1×10^6 LNCaP cells and randomly assigned to four dietary groups; 7% or 20% soybean oil diet with or without α -TOS treatment. Three weeks after inoculation, mice received intraperitoneal injections of α -TOS (100 mg/ kg body weight) in sesame seed oil (SSO) everyday for two weeks; controls received SSO injections. Tumor volumes were recorded weekly. A two-way ANCOVA was used to detect differences in target gene expressions. Alpha-tocopheryl succinate treatment significantly down regulated androgen receptor (AR) and PSA expressions, whereas, transforming growth factor- β (TGF- β), Fasreceptor (Fas-R), and phosphatase and tensin homolog (PTEN) expressions were upregulated by the high-fat diet (20% fat), versus control mRNA. In this novel study, α -TOS was shown to be an effective chemotherapeutic agent, with significant inhibitory effects on human prostate LNCaP xenograft growth.