

**The Effects of a Nutritionally Complete Dietary Supplement (LifePak®)  
on Antioxidant Status and LDL-Oxidation in Healthy Non-Smokers.**

While there is substantial evidence for antioxidant effects of individual nutrients, such as vitamins C and E, little research has been done to show the antioxidant efficacy of nutritionally complete multi-nutrient supplements.

The present study investigated whether a comprehensive multiple nutrient supplement (LifePak®), can improve antioxidant status and improve resistance to LDL-oxidation in healthy non-smokers. In the present cross-over study, 25 subjects received the supplement, and 25 received placebo for 6 weeks. After a 6-week wash-out period, the treatments were reversed. Blood and urine samples were taken at the start and end of each treatment period and analyzed for serum antioxidants and LDL oxidizability.

The supplement (n=24) significantly improved antioxidant status as evidenced by increased serum levels of ascorbic acid (from  $68.1 \pm 3.6$  to  $94.3 \pm 3.9$   $\mu\text{mol/L}$ ,  $p < 0.001$ ; means  $\pm$  SEM)  $\beta$ -carotene (from  $335 \pm 30$  to  $717 \pm 63$  nmol/L;  $p < 0.001$ ), alpha-carotene (from  $76 \pm 11$  to  $592 \pm 54$  nmol/L,  $p < 0.001$ ), and vitamin E (alpha-tocopherol, from  $20.0 \pm 1.3$  to  $36.8 \pm 1.9$   $\mu\text{mol/L}$ ,  $p < 0.001$ ), with no changes in the placebo group (n=22). The supplement significantly decreased LDL oxidizability, as the lag time was prolonged by about 18% (from  $43.4 \pm 0.9$  to  $50.9 \pm 1.3$  min;  $p > 0.001$ ), and oxidation rate was reduced ( $p < 0.001$ ) without changes in the placebo group.

In conclusion, the nutritionally complete multi-nutrient supplement (LifePak®) significantly increased antioxidant status, and decreased LDL oxidizability in healthy non-smokers.

-supported by Pharmanex-IDN

Smidt CR, Seidehamel RJ, Devaraj S, Jialal I. The Effects of a Nutritionally Complete Dietary Supplement (LifePak®) on Antioxidant Status and LDL-Oxidation in Healthy Non-Smokers. FASEB 1999;13(4).