

## **CLINICAL STUDY ON EPHEDRA-FREE SUPER CITRIMAX® PUBLISHED IN *NUTRITION RESEARCH***

### ***New Health Benefits -- Beyond Weight Loss -- Also Discovered***

BENICIA, Calif., February 3, 2004 - Results of the Super CitriMax® human clinical study conducted by researchers at Georgetown University Medical Center (Washington, D.C.) and Andhra University (Visakhapatnam, India) have been published in the peer-reviewed journal, *Nutrition Research* (24(1): 45-58, 2004). Super CitriMax®, a unique patent-pending form of (-)hydroxycitric acid (HCA), is a proprietary, ephedra-free weight loss ingredient developed by InterHealth Nutraceuticals.

HCA has been sold as a safe, all-natural diet ingredient for years with mixed results. The new study explored the use of higher doses and a more bioavailable form of HCA bound to the minerals calcium *and* potassium called Super CitriMax®. Patients in the study not only experienced significant weight loss, but increased fat burning, lowered cholesterol, increased beneficial HDL cholesterol and decreased Body Mass Index (BMI), an indicator of obesity health risk. The eight-week randomized, double-blind, placebo-controlled human clinical trial also revealed surprising new results: Super CitriMax significantly increased levels of serum serotonin, a neurotransmitter involved in mood, sleep and appetite control, which may help address many of the emotional issues overweight people face, including binge-eating and depression.

The pilot study, which was the initial phase of a larger 90 patient study (*Diabetes, Obesity and Metabolism* in press), consisted of 30 human volunteers divided into three groups. Group A received Super CitriMax (2,800 mg HCA per day). Group B received a combination of Super CitriMax (2,800 mg HCA per day) plus niacin-bound chromium as ChromeMate® (400 mcg chromium per day) and *Gymnema sylvestre* extract (400 mg providing 100 mg gymnemic acids per day). Group C received a placebo. The supplements were administered daily in three divided doses 30-60 minutes before meals. All three groups were placed on a diet of 2,000 calories per day and participated in a 30-minute supervised walking program, five days a week.

After an eight-week period, those taking Super CitriMax alone experienced a decrease in body weight of over 12 pounds, or 6.2 percent, and a 6.3 percent reduction in BMI. Those taking Super CitriMax plus ChromeMate and *Gymnema sylvestre* experienced even greater losses, including a 15 pound (7.8 percent) reduction in body weight and a 7.9 percent reduction in BMI. In contrast, the Placebo Group experienced reductions of only 3 pounds or 1.6 percent in body weight and a 1.7 percent reduction in BMI.

Super CitriMax also demonstrated significant oxidation or "burning" of fat. Urinary excretion of fat metabolites, including malondialdehyde (MDA), formaldehyde (FA), acetaldehyde (ACT) and acetone (ACON), increased 25 - 158 percent. The combination of Super CitriMax plus ChromeMate and *Gymnema sylvestre* resulted in even greater excretion of fat metabolites, in the 46 - 181 percent range, while subjects taking the placebo did not experience significant changes in urinary excretion of MDA, ACT, FA and ACON.

Total cholesterol, LDL (harmful) cholesterol and triglycerides decreased 6.3, 12.3 and 8.6 percent, respectively, in the Super CitriMax Group, and 9.1, 17.9 and 17.3 percent, respectively, in the Combination Group. Those in the Placebo Group experienced reductions of only 0.8, 0.8 and 0.0 percent, respectively. At the same time, HDL (beneficial) cholesterol increased 10.7

percent and 20.7 percent in the Super CitriMax and Combination Groups, respectively, but actually decreased slightly (3.3 percent) in the Placebo Group.

Serum serotonin levels, a mechanism of appetite control and eating behavior, increased by 40 percent and 50 percent in the Super CitriMax and Combination Groups, respectively, but only 21 percent in the Placebo Group. Appetite was also significantly reduced. At the end of eight weeks, subjects taking Super CitriMax alone reduced their food intake by four percent, while subjects in the Combination Group had reduced food intake by 14.1 percent. Those in the Placebo Group actually increased food intake by 2.8 percent over the course of the eight-week study.

In all instances, optimal doses of Super CitriMax alone proved quite effective, but the Super CitriMax-ChromeMate-Gymnema formula (patent-pending) resulted in even greater improvements in all areas than Super CitriMax alone.

According to the principal investigator, Dr. Harry Preuss of Georgetown University Medical Center, "While we have believed for some time that HCA held significant promise in the treatment of obesity, this study, utilizing effective doses of bioavailable hydroxycitric acid, marks the first time that such a comprehensive, well-monitored clinical study has definitively confirmed its effectiveness in human subjects. Furthermore, its long-term safety opens the door to the possibility that the hydroxycitric acid available in Super CitriMax may be a valuable tool for long-term weight maintenance, one of the biggest challenges in the fight against obesity."

The dosages used in the study were based on recent animal trials, which revealed the optimal concentrations of HCA required to increase serotonin levels. According to the study researchers, the optimal amount for human consumption is 2,700-2,800 milligrams of HCA per day taken in three divided doses (900 mgs HCA per serving) 30-60 minutes before meals. However, the researchers caution that dosage alone may not produce the desired results. According to Dr. Preuss, "HCA must be taken in a bioavailable form, such as that available in the product used in this study." Super CitriMax is 100 percent soluble compared to generic HCA products, which are typically less than 50 percent soluble. Prior studies at the University of California, Berkeley, have shown that Super CitriMax is bioavailable in humans.

To help consumers identify products that contain optimal levels of bioavailable HCA, InterHealth has introduced a new tradename and logo called **Super CitriMax® Full Strength**, which will appear on the label of finished products that contain optimal dosages of Super CitriMax.

HCA is extracted from a South Asian fruit called *Garcinia cambogia*. Widely consumed for centuries by people throughout India and Southeast Asia as a flavoring agent and an aid to make meals more "filling," it is listed on the U.S. Department of Agriculture's list of perennial edible fruits. Super CitriMax works without stimulating the central nervous system, so it does *not* cause changes in heart rate and blood pressure or interfere with sleep, as do many popular diet aids. Recently, Super CitriMax was affirmed as GRAS (Generally Recognized as Safe) by the Burdock Group, the nation's leading toxicology specialists in evaluating the safety of food and beverage ingredients.