



**AIBMR Life Sciences, Inc.**  
*Natural and Medicinal Products Research*

# **Effects of MonaVie Active on Antioxidant Capacity in Humans**

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Free radicals are highly reactive molecules that are associated with the degenerative aging process. Free radicals steal electrons from healthy cells causing cellular damage. They are byproducts of normal metabolic processes in the body and are produced by exposure to environmental pollutants including cigarette smoke, smog, harmful chemicals, toxins, and sunlight. Antioxidants found in fruits and vegetables help counter the effects of the damaging free radicals.

A study conducted by an independent laboratory in the United States commissioned by the Natural and Medicinal Products Research division of AIBMR Life Sciences was performed to determine whether drinking MonaVie Active affects antioxidant activity and or levels in human serum. The study began with a pilot study that determined which assays and follow-up schedule to use.

The main study used two measures of antioxidant activity: 1) the Thiobarbituric Acid Reactive Substances (TBARS) assay, a well-established method for screening and monitoring of lipid peroxidation; and, 2) the Reactive Oxygen Stress in Red Blood Cells (ROS RBC) assay that measures the ability of antioxidants to enter into a living cell and protect it from damage.

### Clinical Study

**Methods.** We employed a crossover study with twelve participants, all of whom took both MonaVie Active and a placebo at two separate stages in the study. All participants were told they were consuming MonaVie Active. Each treatment was separated by a seven-day washout period where the participants did not consume MonaVie Active. The placebo consisted of two capsules of potato flakes dyed purple to look like MonaVie Active. Blood samples were drawn from the subjects prior to consuming MonaVie Active and placebo, and at one and two hours following consumption, to determine baseline antioxidant levels. Subjects were randomized to receive either 4 ounces of MonaVie Active or placebo first. Results were compared and contrasted on an individual basis and on a group basis.

**Results.** The TBARS measure of lipid peroxidation shows more antioxidant activity when the subjects were consuming MonaVie than when consuming the placebo. An inspection of individual subjects revealed that 83.3% of subjects had a decrease (relative to the placebo) in lipid peroxidation after taking MonaVie. A treatment by repeated measures analysis of variance showed this positive effect to be statistically significant at ( $p = 0.04$ ).

Likewise, the ROS RBC cell-based assay revealed that when subjects consumed MonaVie Active they had a rise in antioxidant activity at both one and two hours after consumption. An inspection of individual results revealed that 82% of subjects had a small to moderate increase (relative to placebo) in antioxidant activity within cells. A treatment by repeated measures analysis of variance showed this effect to be statistically significant ( $p = 0.03$ ).

In summary, MonaVie Active has not only shown experimentally to increase antioxidant activity in human serum, leading to a decrease in lipid peroxidation in the blood stream, but there is also evidence that MonaVie Active provided antioxidants that are able to penetrate cells. This study confirms that by drinking four ounces of MonaVie Active containing Brazilian acai berry, the subjects had a significant increase in their antioxidant capacity and inhibition in lipid peroxidation, which reduces the risk of cholesterol being oxidized. Oxidized cholesterol has been shown to contribute to damage to the internal lining of the arteries.

It is important to note that this study was conducted in a relatively small number of healthy adults. Further studies with larger sample sizes are needed before these results can be generalized to the population-at-large. We expect complete and final results of this study to be published in scientific literature in 2008 after presentation of the findings at an international scientific nutritional symposium in the fall of 2007.