

**AMERICAN BOTANICAL COUNCIL
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NEWS RELEASE

Clinical Trial Shows Cardiovascular Benefits for Rooibos, Popular Antioxidant Herbal Tea from South Africa

Austin, TX. August 7, 2008. The first-ever human clinical trial on a popular traditional South African herbal tea was recently conducted, testing whether it can possibly lower the risk of cardiovascular disease.

The new trial also generated the first human safety data in a controlled clinical trial environment, scientifically showing that short-term consumption of rooibos tea is safe for the liver and kidneys while keeping various blood parameters (e.g., blood pressure, cholesterol levels, etc.) in a normal range.¹

Provisional results from this study indicate that rooibos tea protects the body against oxidative damage, as seen by the approximate 21% decrease in conjugated dienes in the blood. Conjugated dienes are products formed in large numbers during the early stages of oxidation (destruction) of important cellular components such as fats (lipids). These lipid peroxidation products may be implicated in the development of vascular disease.

The trial (entitled “Modulation of blood oxidative stress markers and DNA damage by rooibos tea in volunteers at risk for coronary heart disease”) was conducted by Jeanine L. Marnewick (PhD), senior researcher at the Oxidative Stress Research Centre at Cape Peninsula University of Technology in Cape Town, South Africa.

The trial was conducted on 40 individuals (males and females), between the ages of 30 and 60, from the Western Cape Province with any two or more of the following cardiovascular disease risk factors: hyperlipidemia (high cholesterol), hypertension (high blood pressure), smoking, and/or increased body mass index (BMI; 20 - 35), but not requiring any oral medication for these medical conditions. The actual risk of each participant was determined using a calculation based on the famous multi-year Framingham heart disease trial based on the patient’s age, gender, smoking status, blood pressure, triglycerides and HDL cholesterol (so-called “good cholesterol”). A person with 2 major risk factors has a risk of heart disease or stroke 6 times as great as a person with no risk factors. With 3 factors, the risk of cardiovascular disease is 20 times as great.

Participants in this trial were required to consume 6 cups of rooibos tea per day for 6 weeks with the 6-cup intake spread across the day. In order to maintain a high degree of consistency, the preparation of the rooibos tea was standardized as 2% weight of dried rooibos tea to volume of water, with each cup consisting of one rooibos tea bag with the addition of 200 mL of boiling

water (equal to about 7 ounces, slightly less than 1 cup), brewing for 5 minutes before consumption. Subjects consumed the rooibos with or without milk and/or table sugar, as previous research on green and black teas (from the tea plant, *Camellia sinensis*) have demonstrated that milk does not eliminate the increase in plasma antioxidant activity in humans.² (The class of beneficial antioxidant chemicals found in rooibos, black and green tea, and chocolate are called flavonoids; the flavonoids in rooibos are different from those in tea and chocolate.) The 6-cup amount of rooibos consumed by participants in this trial was based on a human trial published in 2003 where the consumption of 6 cups of green tea increased the antioxidant capacity in the blood of human subjects.³

In a study of this type, it is important to modify the diet of participants in order to remove the consumption of other flavonol-rich foods which may confuse the study results. To do this, the participants were requested to omit flavonoid-rich beverages (red wine, black or green tea and/or herbal teas, coffee, fruit juices, etc.) and to restrict flavonoid-rich foods (grape products, citrus fruits and their juices, berries and their juices, apples, onions, broccoli, etc.) from their diet for 2 weeks before initiation of the intervention study. (Analysis of participants' fasted blood and urine samples taken after this period served as a baseline standard to help determine the extent of participant compliance with the study guidelines.)

As a quality control for the rooibos, a large quantity of rooibos of the same batch was obtained from Rooibos Ltd., the major rooibos producer and supplier in Clanwilliam, South Africa. To ensure consistent quality the researchers took random samples of the rooibos from this one large batch and analyzed them for key chemical compounds (e.g., flavonols) and antioxidant capacity.

The clinical trial design and some of its initial results were announced in a presentation by Dr. Marnewick at the World Tea Expo in Las Vegas, Nevada in May. The trial paper will be submitted to a medical journal for publication after all the statistical data has been fully analyzed, probably by the end of this year.

“Despite its long history of traditional use in South Africa and growing popularity around the world as a tasty and healthful beverage, this is the first time that rooibos has been subjected to a tightly controlled human clinical trial to determine its potential benefit in reducing cardiovascular disease factors,” said Mark Blumenthal, founder and executive director of the American Botanical Council, the leading nonprofit organization dealing with herbs, medicinal teas, and related plant-based ingredients.

“With cardiovascular disease being the biggest killer of people in North America and elsewhere in the world, this study’s preliminary positive results may help increase the relevance of rooibos as a beneficial beverage for consumers and healthcare providers seeking safe, low-cost ways to reduce cardiovascular disease risk,” he added.

Members of the tea industry welcomed the preliminary research findings. “We are extremely excited about the preliminary results of this clinical trial”, says Hugh Lamond from Herbal Teas International of Anaheim, California, the largest distributor of rooibos in North America. “The trial appears to confirm the anecdotal promise for rooibos in fighting heart disease and reducing

oxidative stress in humans. As a result, we expect a huge boost in the worldwide consumption of rooibos in the coming years.”

The research was conducted at the following South African institutions: Cape Peninsula University of Technology and the University of Cape Town. Funding was provided by Cape Peninsula University of Technology, THRIP – National Research Foundation, and the South African Rooibos Council.

Note: The American Botanical Council advises that with all scientific and clinical research that has yet to be published in a peer-reviewed journal, the preliminary announcement of trial results and related statistics may eventually be modified as a result of the peer review process. Thus, some of the data reported in this news release are subject to revision upon publication of this trial.

About Rooibos

Rooibos (*Aspalathus linearis*) in the pea family (Fabaceae) is a popular beverage from South Africa. The name comes from the local Afrikaans name for “red bush,” referring to the red-auburn color of the plant material, which changes after it is harvested and allowed to ferment. The pleasant-tasting red-colored beverage is high in antioxidant compounds, which have been shown to be beneficial for cardiovascular health, among other benefits. Rooibos does not contain any natural levels of caffeine.

About the American Botanical Council

Founded in 1988 the American Botanical Council is the leading nonprofit organization in North America addressing research and educational issues regarding herbs, medicinal teas, essential oils, and other plant-based ingredients. ABC’s members include academic researchers and educators, universities and libraries, health professionals and medical institutions, botanical gardens and arboreta, government agencies, members of the herb, dietary supplement, cosmetic, and pharmaceutical industries, journalists, consumers, and other interested parties from over 70 countries.

References

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 3. [Rietveld A](#), [Wiseman S](#). Antioxidant effects of tea: evidence from human clinical trials. *J Nutr.* 2003;133(10):3285S-3292S.
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