Touro College of Pharmacy

Contact: Barbara Franklin
Director of Communications
212-463-0400, ext. 5530
Barbara.Franklin@touro.edu

FOR IMMEDIATE RELEASE

Touro Study Finds Black Tea Consumption Can Reduce Risk of Heart Disease

New York, N.Y. – *Nov. 1, 2010* – A Touro College of Pharmacy study published in the November 2010 issue of the international scientific journal *Toxicology* has found that black tea reduces the levels of two key indicators of cardiovascular disease, and could lead to promising supplemental dietary management of heart disease in high-risk patients.

The study, conducted on the Indian Ocean island nation of Mauritius, is the first to show that black tea consumption reduces levels of C-reactive protein (CRP) and uric acid, indicators of the inflammation of the arteries that contributes to cardiovascular disease in high-risk patients, and may reduce the amount of drug therapy required by these patients in the future, according to Dr. Okezie I. Aruoma, professor of pharmaceutical and biomedical sciences at the Touro College of Pharmacy in Harlem and the co-principal investigator of the study in collaboration with Dr. Theeshan Bahorun of the University of Mauritius.

"We are the first study to really show a reduction in CRP and uric acids from tea consumption," Dr. Aruoma said. "No one yet has looked at the impact of tea on CRP and uric acid levels and demonstrated positive results. The findings of this study are extremely significant because they indicate that you can actually reduce two of the risk factors for cardiovascular disease without medical intervention."

In the *Toxicology* article (Volume 278, Issue 1), Dr. Aruoma and his colleagues wrote, "Given that tea is the most consumed beverage in the world after water, and that inflammation plays a role in every disease process, including arthritis, diabetes, cancer, heart disease, and obesity, this finding on tea (the first of its kind to show that CRP levels are reduced by tea intake in humans) might be of importance from a public health perspective."

The Mauritius study found that black tea reduced the level of CRP in high-risk patients by 53.4 percent among men and 41.1 percent among women. The black tea also decreased the levels of uric acid by 9.4 percent in men and 7.1 percent in women at high risk for developing coronary disease, heart attacks, stroke and other cardiovascular diseases.

In average-risk patients with CRP levels of 1.6 to 3 mg/liter, the study also found a statistically significant reduction of CRP levels of 43.4 percent in men and 21 percent in women. According to the American Heart Association, individuals with CRP levels higher than 3.0 mg/liter or uric acid levels greater than 7 mg/liter have a high risk of developing cardiovascular disease.

"Tea supplementation-associated decrease in plasma uric acid and CRP levels may benefit humans at high risk of cardiovascular events and may augment drug therapy," Dr. Aruoma and his colleagues wrote. "Moderate intake of black tea may improve the levels of independent predictors of the risk factors of cardiovascular events."

The study was conducted in 2008 at the Cardiac Centre of the Sir Seewoosagur National Hospital, Pamplemousses, Republic of Mauritius, with 263 participants ranging in age from 25 to 60 years old. Over a 12-week period, study participants consumed three grams of black tea (or one standard cup of tea) three times per day. A control group consumed the equivalent volume of hot water.

Dr. Aruoma noted that flavonoids—chemical substances produced by plants to protect themselves against radiation from the sun—were largely responsible for the reduction in CRP and uric acid levels among patients in the study. Black tea leaves grown in the tropical climate of Mauritius, an island of volcanic origin off the southeast coast of Africa, contain relatively large amounts of flavonoids.

"The effects (of the tea) seem to be ascribed primarily to the synergistic effects of the tea phenolics (flavonoids)," Dr. Aruoma and his colleagues wrote.

The results of the black tea study were published along with two other articles by Dr. Aruoma and his fellow researchers in a special issue of *Toxicology* entitled "Functional Nutraceuticals" that was dedicated to the memory of Touro College Founding President Dr. Bernard Lander, of blessed memory, who passed away last February.

Dr. Aruoma, whose work at the Touro College of Pharmacy focuses on the role of dietary biofactors in managing diseases of inflammation, has partnered with the Touro College School of Health Sciences to carry out a more extensive study on the impact of green tea as well as fermented papaya preparation on the cardiovascular complications and cognitive deficits that occur in diabetes patients. The new study, which is also due to take place in New York and Vienna, is scheduled to begin in Mauritius in November 2010.

Dr. Okezie I. Aruoma

Touro College
27 West 23rd Street
New York, N.Y. 10010
www.touro.edu